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CHANGES ON WHEAT FARMS
IN
SOUTHWESTERN KANSAS, 1931-37

With Special Reference to the Influence of AAA Programs

BY

H. L. STEWART

ASSOCIATE AGRICULTURAL ECONOMIST

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FOREWORD

This report traces the effect of forces, whether climatic or economic, on adjustments made on wheat farms in southwestern Kansas during the period 1931-37. It attempts particularly, to depict the importance of the AAA programs in effecting the adjustments and to outline adjustments that would help to effect a more stable agriculture in the area.

The report is based on information secured in two studies. The first study was made in 1930-31 by the Kansas Agricultural Experiment Station and the Bureau of Agricultural Economics of the U. S. Department of Agriculture. Farm organization data were obtained from farm business accounts kept voluntarily by 137 farmers in 1930 and/or 1931. Additional information was obtained by a survey. Six counties - Clark, Finney, Ford, Grant, Gray, and Meade - were included.

The second study was made in the fall of 1937 by the Bureau of Agricultural Economics, the Kansas Agricultural Experiment Station, and the Program Planning Division, formerly of the Agricultural Adjustment Administration but now a part of the Bureau of Agricultural Economics. Information was obtained from farmers who supplied farm-organization data during the earlier study: 96 farmers who were still operating in the area were interviewed; 13 others were known to be operating but were inaccessible; 3 had moved from the area but were farming elsewhere. Of the 137 farmers, 1 was deceased, 8 had quit farming and left the area, and 5 had quit farming but remained in the area. The residence and occupation of the other 11 farmers were not known, but they had quit farming in the area. Most of the 96 farmers interviewed in 1937 were distributed throughout the High Plains area in their respective counties. All but one had participated in one or more of the AAA programs from 1933-37.

That the farmers cooperating in the study kept records of their farm business in 1930-31, and were willing to make them available for analysis, may indicate that as individuals they were somewhat more progressive than the average. Evidence that their farms were better than average includes the fact that in 1937 the average size of the 96 farms was about 1,000 acres as compared with only 686 acres reported on the assessors' rolls for all farms in the six counties, and the fact that only two of the operators had received relief, and only six had received rehabilitation loans. However, it is believed that the organization of the farms studied in 1931 represented the system of farming at that time, and the changes made in organization by 1937 were representative of those made on other wheat farms in the area.

Many helpful suggestions were received from members of the staffs of the cooperating agencies. R. D. Nichols, formerly Cooperative Agent of the Kansas Agricultural Experiment Station and the Bureau of Agricultural Economics, Dr. J. A. Hodges of the Kansas Agricultural Experiment Station, and R. S. Kifer of the Bureau of Agricultural Economics analyzed the data secured in the earlier study. All the field data were secured through the courtesy of cooperating farmers in southwestern Kansas.

CHANGES ON WHEAT FARMS IN SOUTHWESTERN KANSAS, 1931-37

With Special Reference to the Influence of AAA Programs

By H. L. Stewart, Associate Agricultural Economist

INTRODUCTION

A combination of natural and economic factors between 1915 and 1930 led to a decided shift in southwestern Kansas from livestock grazing to wheat farming. Large ranches were divided into farms. Thousands of acres of sod were broken and small farms were consolidated into units more suitable to power farming. On many of the farms wheat was produced to the exclusion of all other crops, and most of the farmers became dependent on the sale of wheat for the major portion of their cash income.

Specialization in wheat production, encouraged during a period of high yields and favorable prices, has added to the farmers' financial difficulties arising from drought and depression since 1931. The period 1932-37 was a period of either crop failure or extremely low wheat yields in southwestern Kansas. Farmers who were almost entirely dependent on the sale of wheat found their incomes drastically curtailed. On the other hand, heavy investments in specialized wheat machinery maintained operating expenses at a comparatively high level. Some farmers reduced their wheat acreage and cash outlay for operations in an attempt to bring operating expenses more nearly in line with incomes. Other farmers, who because of excessive machinery investments could not reduce fixed costs or for other reasons were unable to reduce operating expense, were forced in hope of maintaining income to adopt practices undesirable from the standpoint of conservation and long-time returns.

As their financial reserves and sources of credit were exhausted, some curtailment was forced. Both the adjustments made, and the failure to make needed adjustments in the practices and the organization of farms have been in part attributed to the various Governmental agencies and programs operating in the area. Because of the large proportion of the farmers affected and the large amounts of payments distributed, the programs fostered by the Agricultural Adjustment Administration have probably been more significant than others in influencing agriculture.

THE BACKGROUND OF RECENT CHANGES

General Description of the Area

The concentration of wheat in the various localities in southwestern Kansas is associated closely with topography and soil type. Much of the region is level or only gently rolling, hence it is adapted to the

use of power machinery. There are localities, however, particularly in the neighborhood of streams and in the Red Hills section, where the broken or rolling topography renders the land unfit for wheat growing. In such localities the importance of wheat is limited by the extent of this type of topography. In Clark County, for example, a relatively large proportion of the surface is rolling and a relatively small proportion is seeded to wheat.

Table 1.- Percentage of land area of different soil types in 6 selected counties and in all 25 counties, southwestern Kansas

| Soil type | Selected counties | | | | | | | |
|-----------------------|-------------------|--------|--------|--------|--------|--------|---------|----------|
| | Clark | Finney | Ford | Grant | Gray | Meade | 6 coun- | 25 coun- |
| | : | : | : | : | : | : | ties | ties 1/ |
| | Per- | Per- | Per- | Per- | Per- | Per- | Per- | Per- |
| | cent: | cent: | cent: | cent: | cent: | cent: | cent: | cent: |
| | : | : | : | : | : | : | : | : |
| Loams | 0.0: | 3.0: | 0.0: | 0.0: | 0.5: | 0.0: | 0.7: | 3.2 |
| Silt loams | 56.9: | 59.4: | 85.6: | 55.8: | 69.8: | 64.2: | 65.9: | 68.5 |
| Silty clay loams | 0.0: | 4.9: | 0.5: | 0.0: | 0.0: | 4.0: | 1.9: | 2.0 |
| Stony loams | 16.5: | 0.3: | 0.0: | 0.0: | 0.0: | 8.8: | 4.4: | 2.8 |
| Sands and sandy loams | 14.5: | 10.8: | 4.4: | 42.9: | 8.7: | 14.9: | 13.8: | 14.8 |
| Loamy sands | 0.0: | 0.0: | 1.5: | 0.0: | 0.0: | 4.0: | 1.0: | 0.3 |
| Dune sand | 5.7: | 16.4: | 0.4: | 0.0: | 16.7: | 0.0: | 7.2: | 3.3 |
| Undifferentiated | 6.4: | 5.2: | 7.6: | 1.3: | 4.3: | 4.1: | 5.1: | 5.1 |
| All types | 100.0: | 100.0: | 100.0: | 100.0: | 100.0: | 100.0: | 100.0: | 100.0 |

1/ For list of counties see table 53.

Source: Unpublished data from Regional Agricultural Adjustment Project, prepared by J. A. Hodges and C. R. Jaccard, and now on file at Kansas State College.

Silt loams, occupying 65.9 percent of the land area in the 6 sample counties and 68.5 percent of the land area in all 25 counties of southwestern Kansas (table 1), comprise the major soil type of the area.

The silt loams are generally adapted to the growing of wheat and are associated with its production where the topography permits the use of power machinery. In Ford County where there is a high proportion of silt loam soils and little sandy or broken land, a high proportion of the land area is seeded to wheat. On the other hand, there is also a high percentage of silt loam soils in Wallace County but much of the topography is rough and a relatively small proportion of the land area is seeded to wheat. Sands and sandy loams are adapted to the production of row crops and to pasture, while dune sand is suitable only for pasture. In localities such as those south of the Arkansas and the Cimarron Rivers where these light sandy soils prevail, the production of wheat is limited.

Estimates of the proportions of the land area of the 6 sample counties and of all 25 southwestern Kansas counties that are adapted to various crops are shown in table 2. That area estimated as being adapted to wheat is associated with the area occupied by level silt loams. Much of the area estimated as being adapted to row crops is associated with that occupied by sandy loams, while the area recommended for pasture comprises, for the most part, the rougher portions of the silt loams, the stony loams, and the dune sands. The relatively small area suitable for alfalfa comprises the heavier soils of the Laurel and Lincoln series that are subject to either surface or sub-irrigation.

Table 2.- Estimates of the percentage of land area adapted to principal crops, southwestern Kansas

| County | Total land area | Percent of land adapted to | | | | | |
|-----------------------|-----------------------|----------------------------|---------|--------------------|---------|---------|--|
| | | Wheat | Corn | Other row crops | Alfalfa | Pasture | |
| | Acres | Percent | Percent | Percent | Percent | Percent | |
| Clark | 622,720 | 27.0 | 3.0 | 16.0 | 1.3 | 52.7 | |
| Finney | 816,640 | 34.2 | 3.6 | 17.4 | 3.5 | 41.3 | |
| Ford | 692,480 | 56.1 | 2.3 | 20.5 | 3.2 | 17.9 | |
| Grant | 369,920 | 41.8 | 12.4 | 23.0 | 1.3 | 21.5 | |
| Gray | 548,480 | 52.8 | 4.8 | 16.5 | 2.2 | 23.7 | |
| Meade | 629,760 | 41.1 | 3.4 | 17.8 | 4.8 | 32.9 | |
| 6 counties | 3,680,000 | 41.8 | 4.3 | 18.2 | 2.9 | 32.8 | |
| 25 counties <u>1/</u> | 13,891,840 | 37.4 | 4.3 | 18.8 | 2.0 | 37.5 | |

1/ For list of counties see table 53.

Source: Unpublished data from Regional Agricultural Adjustment Project, prepared by J. A. Hodges and C. R. Jaccard, and now on file at Kansas State College.

Crop production throughout the area is limited by the deficiency and uncertainty of rainfall. The average annual precipitation ranges from approximately 16 inches in the western part of the area to 20 inches in the eastern part. From 1891 to 1937 precipitation averaged 16.2 inches at Ulysses in the western part, 18.7 inches at Garden City in the central part, and 19.8 inches at Dodge City in the eastern part of the area. Annual precipitation varies greatly from year to year. It has been as much as 26 inches and as little as 9 inches at Ulysses, as much as 29 inches and as little as 9 inches at Garden City, and as much as 34 inches and as little as 10 inches at Dodge City. The season during which the precipitation occurs likewise affects crop production, and although three-fourths of the moisture falls ordinarily during the growing season, the moisture at critical periods may be inadequate for growing crops. Rain-

fall is likely to be local in character, and crop yields often vary greatly from farm to farm or on different fields on the same farm, as well as between different years. This variability between localities is evident particularly in dry years.

Periods of drought have not been uncommon in the area. The years 1860-63, 1874-76, 1878-80, 1887-90, 1893-95, 1910-14, 1916-18, and 1931-37 were periods of general drought throughout the area. The 4-year period 1934-37 was the most severe period of drought ever experienced, culminating in the year 1937 in which precipitation throughout the area was, with the possible exception of 1893, the lowest on record. A diversification of crops seeded is no insurance of crop production during such periods of protracted drought. The production of forage crops has been somewhat less risky than that of wheat, but the inclusion of forage crops in the farm program implies the inclusion of forage-consuming animals and a failure of forage crops during protracted periods of drought introduces additional risks unless adequate feed reserves are maintained.

Drought has been the major hazard of crop production but soil blowing, hail, torrential rainfall, insects, and plant diseases increase the risk of crop production in the area.

Development of Agriculture to 1930

Settlement of the Area.

Originally a grazing area, southwestern Kansas was first utilized agriculturally when herds of cattle were driven north from Texas about 1870. Its settlement and utilization as a crop-producing area followed shortly when settlers moved in from the east to occupy tracts of land provided by the Homestead Act (1862) and the Timber Culture Act (1873). Possessing little equipment, and having only a limited knowledge of acclimated crops and methods of crop production adapted to semi-arid conditions, the settlers' early attempts at crop production failed during periods of limited rainfall. With no Government payments to sustain people in the area, as they did in 1932-38, the early history of the area is one of alternating occupation and abandonment, the population increasing during periods of relatively high precipitation and decreasing during or immediately following periods of drought. As the occupiers became acquainted with the area, varieties of crops and methods of crop production more nearly adapted to semi-arid conditions were developed. Emigration as a result of drought gradually declined, and although it reappeared as a result of the severe drought from 1934-37, it was no doubt restricted by the payments distributed throughout the area by various governmental agencies.

Occupation of the area increased rapidly after 1900. Data from the U. S. Census show that the number of farms in the area doubled between 1900 and 1910, while the percent of the land area in farms increased from 46 to 58 percent. The number of farms declined somewhat during the relatively dry decade, 1910-20, but wheat production expanded, the size of farms increased, and the percent of the land area in farms increased to

73 percent. Both the number of farms and the percent of the land area in farms increased during the relatively humid period, 1920-30, the number of farms in the 25 southwestern Kansas counties having increased from 14,272 to 16,267; while the percent of the land area in farms had increased to 81 percent.

Settlement was not uniform throughout the area. The more humid eastern portions were settled first and the population was apparently more stable in those localities than in the drier western portions.

Factors Encouraging Wheat Production.

The expansion of wheat production in southwestern Kansas was closely associated with the development of power machinery. In 1915, when the Kansas State Board of Agriculture first reported the number of tractors, only 286 were reported in the 25 southwestern counties. The number of tractors reported in those counties increased to 1,333 in 1920, 3,501 in 1925, 9,727 in 1930, and reached a peak of 11,655 in 1934. Combines were introduced in the area about 1917, but numbers of combines were not reported till 1923, the number in the 25 counties at that time being 719. The number of combines increased to 1,085 in 1925, 6,083 in 1930, and reached a peak of 7,724 in 1932.

During this period when the use of power machinery was increasing, the percentage of the land area that was seeded to wheat increased from 9.9 percent in 1915 to 13.6 percent in 1920. It was 17.8 percent in 1925, and 34.1 percent in 1930, reaching its peak of 38.0 percent in 1931. The expansion of wheat production, however, was not uniform throughout the entire area. The eastern part of the area had become an important wheat producing section before the advent of the combine and before tractors had come generally into use. In Ford County about 300,000 acres, or nearly one-half the area of the county were seeded to wheat annually during the period 1917-23. Almost 100,000 acres more were seeded to wheat from 1924-31, an expansion that took place partly as a result of a decrease in the acreage of other crops, but which accompanied a marked decrease of prairie pasture. The county reported 278,000 acres of native pasture in 1918, but by 1930 only 145,000 acres were reported and nearly all the land suited to the growth of crops and level enough for the use of large machinery had been plowed.

On the other hand, wheat production was uncommon in the western part of the area prior to 1920. At that date only one-tenth of the area of Grant County was in crops and only one percent of the area was seeded to wheat. The acreage seeded to wheat in Grant County expanded rapidly after 1920. It exceeded the acreage seeded to corn and grain sorghums for the first time in 1922; and by 1930, when it reached its peak, it comprised 88 percent of all acres in crops and 60 percent of the entire area of the county. As in Ford County, the expansion of wheat acreage in Grant County was accompanied by a marked decrease of native pasture, the pasturage reported in 1930 being only 53,000 acres as compared with 155,000 acres reported in 1920.

Increased use of combines and other power machinery enabled the operators to handle a much larger acreage of wheat than had been possible previously, but this fact alone was not sufficient to induce the marked expansion in wheat acreage that occurred between 1920 and 1930, when the acreage seeded to wheat in the 25 counties increased some 250 percent. Higher than normal precipitation was characteristic of the period, and abandonment of wheat acreage, much of which was seeded on virgin soils, was light. Wheat yields were generally high, the 11-year average yield in the 25 counties being 9.3 bushels per acre seeded and 11.1 bushels per acre harvested. Furthermore, the price of wheat was relatively high. The farm price of wheat in the 25 counties had been approximately \$2 per bushel from 1917-19, and this relatively high price carried through 1920. It dropped to a little less than one dollar in the period 1921-23; exceeded a dollar from 1924-27; was approximately one dollar in 1928 and 1929; and did not drop much below a dollar until the early months of 1930. All of these factors: high precipitation, high yields, little abandonment, and high prices, together with the increased use of power machinery, induced an expansion of wheat to land not adapted to its production. In 11 of the 15 counties in the southern and eastern portions of the area, the acreage seeded to wheat for the 1930-31 crops exceeded that estimated as being adapted to wheat (table 53).

This rapid expansion of wheat production was made at the expense of other farm enterprises. Between 1920 and 1930, prairie-grass pasture in the 25 counties was reduced from 5,334,000 acres to 4,356,000 acres, or 854,000 acres below that estimated as being adapted only to pasture. Total corn acreage was increased during this relatively moist decade but much of the increase came in the northwestern portions of the area, while in those portions of the area where the expansion in wheat acreage was greatest, the acreage of corn was reduced. The increase in the corn acreage was offset by an equal decrease in the acreage seeded to grain sorghums. Numbers of cattle, the major livestock enterprise in the area, were reduced in nearly the same proportion as was prairie-grass pasture. On the basis of total numbers, they were reduced 15 percent, but when converted to a number-per-farm basis, they were reduced about 26 percent. Numbers of swine increased in all but a few counties, but swine remained a minor enterprise.

Type and Organization of Farms, 1930.

Most of the desirable farming land had been broken by 1930. According to the 1930 census, 51.1 percent of the farm land in the 25 southwestern counties was cropland, while 46 percent was still in pasture. Nearly one-half of the pasture land was classed as tillable, but most of the balance was in rough areas such as the Red Hills of Barber, Clark, Comanche, and Moade Counties, the rough land adjacent to the Arkansas, the Cimarron, and the Smokey Hill Rivers, or in the sand hills.

A classification of farms by types, based primarily on sources of income, shows that cash-grain farming predominated throughout most of the area in 1930 (table 3). Cash-grain farms were particularly prevalent in

those portions of the area where level silt loams prevail. Crop-specialty farms predominated in the irrigated and dry-land broomcorn sections while animal-specialty farms and stock ranches were located in the rough and sandy sections. General farms were situated in the transitional zones between crop-and livestock-producing sections.

Table 3.- The distribution of types of farming in 25 southwestern Kansas counties

| Type of farming | Percent of total | | | Percent of farm | | |
|--------------------------|------------------|----------|--|-----------------|----------|--|
| | number | | | land | | |
| | Average | Range by | | Average | Range by | |
| | | counties | | | counties | |
| Cash grain | 69 | 28-93 | | 64 | 34-94 | |
| Crop specialty | 3 | 0-20 | | 2 | 0-14 | |
| General | 9 | 1-22 | | 5 | 0-17 | |
| Animal specialty | 7 | 0-17 | | 7 | 0-24 | |
| Stock ranch | 4 | 0-15 | | 18 | 0-42 | |
| All others ^{1/} | 8 | - | | 4 | - | |
| Total | 100 | | | 100 | | |

^{1/} This includes fruit, truck, dairy, poultry, self-sufficing, abnormal, and unclassified farms.

Source: 1930 U. S. Census of Agriculture, Third Series, Type of Farm.

Although 69 percent of the farms in the area were classified as cash-grain farms, there were other important sources of income on these farms. The distribution of sales in 1931 on 76 wheat farms in southwestern Kansas shows that much production other than wheat occurred on the cash-grain farms. On the average, 68 percent of the sales were from grain, 63 percent being from wheat. Seventy of the 76 farms had 40 percent or more of their sales from grain, and on this basis would have been classed as cash-grain farms by the 1930 census. However, 23 percent of the sales on these wheat farms were from livestock and livestock products, 15 percent originating in the sales of cattle and hogs, 4 percent in dairy products, and 4 percent in poultry and poultry products. About three-fourths of the cropland on those farms was seeded to wheat and less than one-fifth was seeded to other crops. But these farms had, as an average, about 35 head of cattle, 10 hogs, and nearly 150 chickens, and they were not entirely dependent on wheat sales for income.

CHANGES IN FARMING AND FACTORS INFLUENCING THE CHANGES, 1931-37

Crop Yields, Crop Acreage, and Livestock Numbers

Following the relatively productive and prosperous period from 1920-30, a number of factors appeared which tended to influence the organization of farms in southwestern Kansas. Export markets had been diminishing and wheat surpluses increasing. When a record wheat crop was produced in 1931, it, together with the general breakdown in our national price structure, was sufficient to bring the market price of wheat to very low levels. The average farm price of wheat in southwestern Kansas in 1931 was 33 cents a bushel. In 1932 it was 29 cents. Carrying a heavy machinery and land indebtedness, contracted but not paid at the inflated prices of the preceding years, the specialized wheat farmers would have been faced with financial difficulties even if the high yields of the preceding decade had been maintained. Their difficulties were increased when crop yields decreased or failed.

The period 1931-37 was a period of general moisture deficiency throughout the area, the 4-year period 1934-37 being the most severe period of drought on record. Following the record crop of 1931, the average yield of wheat per seeded acre in southwestern Kansas was 5.8 bushels in 1932, 2.0 bushels in 1933, 2.6 bushels in 1934, 1.0 bushel in 1935, 3.3 bushels in 1936, and 2.0 bushels in 1937. From 1933-37 over three-fourths of the county yields of wheat per seeded acre reported in southwestern Kansas were less than 3 bushels, and nearly two-fifths were less than 1 bushel. The average yield of corn per planted acre was 3.0 bushels in 1933, 0.5 bushel in 1934, 1.6 bushels in 1935, and 0.5 bushel in 1936-37. Two-fifths of the county yields of corn reported from 1933-37 were complete failures, one-half were less than 1 bushel, and over four-fifths were less than 3 bushels. Yields of grain sorghums were fair in 1933, but they averaged only 1.9 bushels per planted acre in 1935 and 2.9 bushels in 1937. Production of grain was so small in 1934 and 1936 that the yields of grain sorghums were not reported.

It is evident that a diversification of planted crops was no assurance of grain production during such a period of drought. Farm prices increased somewhat after 1932, but with little or no production the wheat farmers in southwestern Kansas had little income from their customary sources.

As a result of the low prices and dry seeding conditions in the fall of 1931, the acreage seeded to wheat for the 1932 crop was 307,000 acres less than the record-breaking acreage seeded in the 25 counties for the 1931 crop. However, a heavy investment in specialized wheat machinery, together with the farmers' burden of indebtedness, their desire for the high speculative profits produced by wheat during the preceding decade, and the difficulties involved in shifting from grain farming to livestock production during a period of drought and depression, prevented a permanent retrenchment in the acreage seeded to wheat. The acreage was

increased over the preceding year by 183,000 acres in 1933. It was decreased by 246,000 acres in 1934 and 64,000 acres in 1935; but was increased by 105,000 acres in 1936 and 266,000 acres in 1937. The acreage seeded for the 1937 crop was only 63,000 acres (1.2 percent) less than the 5,273,000 acres seeded for the record crop of 1931.

The acreage planted to corn and grain sorghums in the spring of 1932 was 602,000 acres larger than that planted in 1931, and no doubt represented a shift of some acreage from wheat to row crops. The acreage planted to row crops fluctuated considerably after 1932, increasing in 1933 and 1935 when abandonment of wheat was particularly high, and decreasing in 1934, 1936, and 1937 when approximately one-half of the wheat acreage seeded was harvested. The acreage planted to corn and grain sorghums in 1937 was 40 percent less than that planted in 1933. The acreage seeded to grain sorghums had decreased only slightly, but that planted to corn had decreased from 761,000 to 130,000 acres. There was no definite relationship between the shift in acreage planted to row crops and that planted in wheat. Shifts in row-crop acreages apparently resulted from different planting conditions and from the abandonment of wheat, and it is evident that while the wheat farmers were attempting to produce row crops when their wheat failed, they were not making any concerted effort to reduce their wheat acreage.

Numbers of cattle, the major livestock enterprise, had been increasing in the area since 1917. The increase continued through 1931, 1932, and 1933. But as the severity of the drought increased, feed supplies were exhausted and a wholesale reduction in cattle numbers was necessary. The major reduction was made in 1934, when 142,000 head of cattle, or over one-fourth of the number reported on farms of March 1, 1934, were purchased in the 25 counties by the AAA Emergency Livestock Purchase Program. Continued drought and concomitant crop failures necessitated further reductions, and by March 1, 1936, the number of cattle in the 25 counties was only 321,000 head, or 68 percent of the number reported on March 1, 1934. Numbers of other grain-consuming animals were reduced even more than cattle. Numbers of hogs had been increased considerably in 1931-32 as a means of marketing 30-cent wheat; but the continued failure of grain crops forced a drastic reduction in hogs. Numbers of hogs in the area were reduced from 147,000 on March 1, 1932, to 26,000 on March 1, 1936, or to a point lower than at any time since 1903.

Drought has unquestionably been the primary factor affecting changes in the organization of farms in southwestern Kansas in the period 1931-37. Various governmental agencies have been contributing factors through the influence of their programs in the area; but in the main these governmental programs have come as an aftermath to the drought and have tended primarily to alleviate conditions resulting from the drought by providing subsistence and working capital that enabled many farmers to continue operations in the area. On the basis of the number of farms reported by the 1935 census, payments other than AAA payments distributed in the six sample counties from 1933-36 averaged \$600 per farm while loans

still outstanding averaged \$2,240 per farm.^{1/} The Agricultural Adjustment Administration, through its emergency livestock purchase program, distributed an average of \$109 per farm in the sample counties. In addition, it distributed through its various crop-control programs an average of \$2,352 per farm in rental and benefit payments during the 4-year period, 1933-36; and \$453 per farm through Agricultural Conservation Program payments in 1936, a total of \$2,914 per farm.^{2/}

AAA Programs

There were two major phases of AAA program activity during the period studied. Augmented by emergency programs such as the livestock-purchase program, the first major phase comprised a number of commodity-control programs designed to increase the buying power of farmers by making payments for a reduction in acreage or a reduction in the production for market of a number of basic commodities. The wheat program from 1933-36, the corn-hog program in 1934-35, and the sugar program in 1934-35 were the production-control programs in operation in the area during this first phase.

About 95 percent of the rental and benefit payments received by farmers interviewed were wheat payments (table 4). But with three-fifths to three-fourths of the cropland seeded to wheat and with only a limited production of corn, hogs, and sugar beets, it naturally followed that the wheat program would be the most significant and that farmers receiving the largest payments were those with the largest wheat base.

The significance of the wheat program was increased by its continuance over a longer period than that of other production-control programs. Wheat payments were first made on the 1933 crop, whereas corn-hog and sugar payments were not made until 1934. Moreover, wheat payments were continued in this area in 1936 after the other production-control programs were abandoned. The continuance of wheat payments in 1936 was a result of the fact that wheat is seeded in this area in the fall preceding the year of harvest, and governmental commitments for payments for controlling the 1936 wheat crop were made before the production-control programs were invalidated in January 1936. Hence, the production of winter wheat in this area permitted some control of the acreage seeded for the 1936 crop, although it prevented any control of the 1933 crop because the acreage for that crop was seeded in the fall of 1932.

^{1/} Land Use Survey of the Southern Great Plains, Revised, Part II, Southwestern Kansas, Table 4, Division of Land Economics, Bureau of Agricultural Economics, Amarille, Texas, April 1, 1938.

^{2/} Ibid.

Table 4.- Gross AAA payments per farmer received by 95 ^N/_{representative farmers, 1933-36, by counties, southwestern Kansas 1/}

| County | Number of farmers | Payments per farmer | | | | |
|--------------|-------------------------|---------------------|------------------|-------------------------|------------------|------------------|
| | | A.C.P. 1936 | Wheat 1933-36 | Corn- hog 1934-35 | Other 1933-36 | Total 1933-36 |
| | | Dollars | Dollars | Dollars | Dollars | Dollars |
| Clark | 17 | 574 | 2,722 | 10 | 0 | 3,306 |
| Finney | 16 | 457 | 1,543 | 247 | 19 | 2,266 |
| Ford | 14 | 539 | 2,294 | 65 | 0 | 2,898 |
| Grant | 13 | 1,014 | 4,688 | 459 | 0 | 6,161 |
| Gray | 22 | 498 | 2,534 | 46 | 0 | 3,078 |
| Meade | 13 | 531 | 2,575 | 178 | 12 | 3,296 |
| All counties | 95 | 586 | 2,666 | 151 | 4 | 3,407 |

1/ Only 95 farmers interviewed who received AAA payments.

The second phase of the AAA programs was begun with the enactment of the Soil Conservation and Domestic Allotment Act in February 1936. Emphasis still was placed on increasing the farmers' income but the basis for payments was shifted from production control to land uses and farm practices which would tend to conserve and increase soil fertility. This shift in the basis for payments provided a more uniform program as well as a more equitable distribution of payments among farmers operating different types of farms. The diversion of basic commodities from a historic base was no longer the farmers' sole means of earning AAA payments. They were able to earn conservation payments on any part of their cropland and, to a somewhat smaller extent, on their permanent pasture. With the announcement of the range program in the fall of 1936, those who were classed as ranchers were able to earn additional conservation payments on their pasture.

Nearly all farmers in the area participated in the various AAA programs. It was profitable for them to do so. The AAA payments were in many instances the farmers' major source of income from 1933-37. Unlike the relief agencies which provided assistance primarily to those farmers who had no other means of support, or the lending agencies which provided capital to applicants with negotiable collateral, the AAA distributed payments to nearly all farmers in the area.

By providing subsistence, working capital, and carrying charges on indebtedness when crop failures were common and incomes from normal sources were particularly low, the AAA program provided the means whereby the majority of the farmers were enabled to maintain their homes and cultivate their land. But, particularly in its earlier phase, the program encouraged the retention in crop uses of land unsuited to crop production,

which for the stabilization of agriculture in the area should be reverted to permanent pasture. Such land was, for the most part, broken during the over-expansion of crop farming in the abnormally favorable period, 1920-31, and without the AAA payments much of it would have been allowed to lie idle. The fact that in 1938, over 600,000 acres, or more than 10 percent of the cropland reported in the 1935 census, was established as a restoration-land goal in 23 of the 25 southwestern Kansas counties ^{3/} indicates that definite action is being taken to remove at least a part of this acreage from cultivation.

Farm Organization

Size of Farms and Tenure of Farm Operators.

The increase in both the number of farms and land in farms which occurred between 1920 and 1930 was continued until the advent of severe drought in 1934. Census reports show that the number of farms in the 25 southwestern Kansas counties increased 6 percent between 1930 and 1935 and the land in farms increased 4 percent. The average size of farms decreased from 688 to 675 acres in the 25 counties, and from 632 to 624 acres in the 6 sample counties.

Annual reports of the County Assessors show that the increase in the numbers of farms was gradual until 1933, and that it culminated in a marked increase between 1933 and 1934 (table 5). With the advent of severe drought in 1934, however, a migration of farmers from the area was begun and each succeeding year has shown a decline in the number of farms reported by the Assessors. Changes in land in farms were less pronounced than were changes in the number of farms. Hence, changes in the average size of farms have been inversely proportionate to changes in the number of farms.

Numbers of farms of medium size decreased after 1930 but these decreases were more than offset by increases in both small and large farms (table 6). The increase in small farms was most pronounced in the cash-grain and general type-of-farming sections, whereas the increase in large farms occurred in the cash-grain and the rougher ranching sections (table 54).

^{3/} Data not readily available for Grant and Kearney Counties.

Table 5.- Relative numbers and sizes of farms in 25 counties and 6 sample counties, southwestern Kansas, 1928-38

(1930 = 100)

| Year | Number of farms | | Acres in farms | | Acres per farm | |
|------|-----------------|----------|----------------|----------|----------------|----------|
| | 25 | 6 | 25 | 6 | 25 | 6 |
| | counties | counties | counties | counties | counties | counties |
| 1928 | 99.2 | 96.9 | 97.7 | 96.4 | 98.5 | 99.4 |
| 1929 | 100.6 | 101.1 | 97.5 | 97.6 | 96.9 | 96.4 |
| 1930 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1931 | 101.6 | 99.9 | 98.6 | 96.1 | 97.0 | 96.1 |
| 1932 | 101.6 | 100.4 | 98.4 | 95.3 | 96.8 | 94.9 |
| 1933 | 103.3 | 101.3 | 98.8 | 96.0 | 95.7 | 94.6 |
| 1934 | 124.0 | 121.4 | 108.3 | 103.6 | 87.3 | 85.2 |
| 1935 | 111.4 | 113.4 | 104.6 | 100.0 | 91.7 | 88.1 |
| 1936 | 110.8 | 112.7 | 103.7 | 102.5 | 93.6 | 90.9 |
| 1937 | 109.8 | 109.6 | 106.2 | 102.8 | 96.7 | 93.7 |
| 1938 | 103.5 | 101.1 | 105.0 | 98.0 | 101.4 | 96.7 |

Source: County Assessors' Rolls.

Table 6.- Percent of farms by size reported on Assessors' Rolls in 9 sample townships, southwestern Kansas, March 1, 1929-38

| Year | Size of farm | | | | | | | | |
|------|--------------|---------|---------|---------|---------|---------|-------------|---------------|-----------|
| | Less | | | | | | 1,000- | 5,000 | |
| | than | 100-174 | 175-259 | 260-499 | 500-749 | 750-999 | 1,000-4,999 | 5,000 or more | Not given |
| | acres | acres | acres | acres | acres | acres | acres | acres | |
| | Percent | Percent | Percent | Percent | Percent | Percent | Percent | Percent | Percent |
| 1929 | 1.1 | 7.6 | 4.3 | 32.8 | 18.6 | 17.4 | 15.6 | 0.8 | 1.8 |
| 1930 | 2.3 | 6.5 | 3.1 | 34.9 | 19.9 | 15.1 | 15.7 | .9 | 1.6 |
| 1931 | 1.4 | 7.2 | 2.5 | 31.9 | 18.3 | 19.6 | 15.1 | .6 | 3.4 |
| 1932 | 2.4 | 7.0 | 3.1 | 31.4 | 17.2 | 18.2 | 16.6 | .6 | 3.5 |
| 1933 | 2.4 | 6.6 | 3.7 | 30.4 | 15.3 | 20.9 | 16.9 | .9 | 2.9 |
| 1934 | 2.0 | 12.7 | 4.0 | 31.7 | 17.3 | 15.6 | 12.1 | .9 | 3.7 |
| 1935 | 2.9 | 11.7 | 4.4 | 32.1 | 15.4 | 17.3 | 11.2 | 1.0 | 4.0 |
| 1936 | 2.6 | 12.2 | 2.3 | 30.4 | 16.7 | 19.1 | 12.7 | 1.3 | 2.7 |
| 1937 | 3.6 | 11.4 | 3.1 | 33.5 | 15.9 | 16.6 | 13.5 | .7 | 1.7 |
| 1938 | 3.6 | 10.6 | 2.1 | 32.4 | 15.4 | 16.0 | 17.3 | 1.0 | 1.6 |

Source: County Assessors' Rolls.

There was some increase in tenant-operators and some corresponding decrease in owner-operators, but land tenure, as indicated by census reports of tenancy, had changed little during the 5-year period 1930-35.

Data secured by interviewing selected farmers in the six sample counties show that small farms were decreasing, but that large farms were increasing in size. The average size of all farms studied had increased from 917 acres in 1931 to 1,011 in 1937 (table 7), the decrease in size of the smaller farms having been more than offset by increases in the size of the larger farms.

Table 7.- Average size of farm operated by 85 identical farmers ; and percentage of farmers reporting changes in the size of their farms, by number of crop acres operated, southwestern Kansas, 1931 and 1937 1/

| Number of crop acres operated 1937 | Number of farmers | Acreage per farm | | Percent reporting | | |
|---------------------------------------|-------------------------|---------------------|-------|-------------------|----------|--------------|
| | | 1931 | 1937 | Increase | Decrease | No change |
| Less than 300 acres | 9 | 605 | 719 | 11 | 45 | 44 |
| 300-499 acres | 21 | 675 | 630 | 14 | 33 | 53 |
| 500-699 acres | 20 | 803 | 755 | 30 | 20 | 50 |
| 700-899 acres | 12 | 838 | 1,111 | 75 | 8 | 17 |
| 900 acres and over | 23 | 1,400 | 1,641 | 65 | 13 | 22 |
| All sizes | 85 | 917 | 1,011 | 40 | 22 | 38 |

1/ Only 85 identical farmers reporting acreage in both 1931 and 1937.

The average size of farms with less than 300 crop acres in 1937 had increased, but this increase was a result of the smallness of the sample and the inclusion in the group of one farmer who had been operating a small wheat farm in 1931, but who had sold out and begun the operation of a small ranch by 1937. If the record secured from this individual were eliminated, the average size of the other eight farms in the group would show a decrease in size from 627 to 534 acres. The percent of the farmers reporting an increase in the size of their farms was almost directly proportional to the number of crop acres operated whereas the percent reporting a decrease was inversely proportional.

The average size of the farms operated in 1931 by 19 farmers who were interviewed at that time but who had ceased farming by the fall of 1937 was 900 acres (table 8). Although 86 acres smaller than the average

size of other farms surveyed, the distribution of these farms in the various size groups was similar to that of the other farms. It is unlikely, in most instances at least, that inadequacy in size of operating units was the major factor contributing to these operators' failure to continue in the area.

Table 8.- Average size of farm operated in 1931 by 19 farmers who had ceased farming by October 1937, by number of crop acres operated, southwestern Kansas

| Number of crop acres operated, 1931 | : | Number of farmers | : | Average per farm |
|--|---|----------------------|---|---------------------|
| Less than 300 acres | : | 4 | : | 357 |
| 300 - 499 acres | : | 2 | : | 532 |
| 500 - 699 acres | : | 5 | : | 726 |
| 700 - 899 acres | : | 2 | : | 960 |
| 900 acres and over | : | 6 | : | 1,508 |
| All sizes | : | 19 | : | 900 |

Of the 66 farmers from whom complete tenure data were secured in both 1931 and 1937, one-fifth were full owner-operators in 1931, three-fifths were part owner-operators, and one-fifth were tenant-operators (table 9). The proportion of those who were full-owners had decreased while those who were part-owners and those who were tenants had increased by 1937.

It is significant that of the farmers who had changed their tenure status, three out of four who had less than 700 crop acres had done so by dropping land and only one had done so by taking on additional land. On the other hand, three out of four who had more than 700 crop acres had changed their tenure by renting or purchasing additional land.

Of the 19 farmers who had ceased farming 8 owned none of the land they were operating in 1931. Only 1 was a full-owner-operator, while 10 were part-owner-operators. It may be that a lack of equity in land was one factor contributing to these operators' inability to continue in the area.

Table 9.- Percentage of 66 identical farmers 1/, and of 19 farmers who had ceased farming 2/, by tenure and number of crop acres, southwestern Kansas, 1931 and 1937

| Number of crop acres operated | 1931 | | | | | 1937 | | | | |
|-------------------------------------|---------------|------------------|--------|--------|------|---------------|------------------|--------|--------|------|
| | Percentage of | | | | | Percentage of | | | | |
| | Number: | farmers who were | | | | Number: | farmers who were | | | |
| | of | farm- | Owners | Part- | Ten- | of | farm- | Owners | Part- | Ten- |
| | ers | ers | owners | owners | ants | ers | ers | owners | owners | ants |
| | | Per- | Per- | Per- | | | Per- | Per- | Per- | |
| | | cent | cent | cent | | | cent | cent | cent | |
| | | | | | | | | | | |
| Identical farmers: | | | | | | | | | | |
| Less than 300 acres | 5 | 40.0 | 60.0 | 0.0 | | 5 | 40.0 | 60.0 | 0.0 | |
| 300 - 499 acres | 18 | 11.1 | 77.8 | 11.1 | | 18 | 22.2 | 66.7 | 11.1 | |
| 500 - 699 acres | 14 | 14.3 | 57.1 | 28.6 | | 14 | 7.1 | 57.1 | 35.8 | |
| 700 - 899 acres | 9 | 33.3 | 33.3 | 33.4 | | 9 | 11.2 | 44.4 | 44.4 | |
| 900 acres and over | 20 | 20.0 | 55.0 | 25.0 | | 20 | 15.0 | 65.0 | 20.0 | |
| All sizes | 66 | 19.7 | 59.1 | 21.2 | | 66 | 16.7 | 60.6 | 22.7 | |
| Farmers having | | | | | | | | | | |
| ceased farming: | | | | | | | | | | |
| Less than 300 acres | 4 | 25.0 | 50.0 | 25.0 | | - | - | - | - | |
| 300 - 499 acres | 2 | .0 | .0 | 100.0 | | - | - | - | - | |
| 500 - 699 acres | 5 | .0 | 60.0 | 40.0 | | - | - | - | - | |
| 700 - 899 acres | 2 | .0 | 50.0 | 50.0 | | - | - | - | - | |
| 900 acres and over | 6 | .0 | 66.7 | 33.3 | | - | - | - | - | |
| All sizes | 19 | 5.3 | 52.6 | 42.1 | | - | - | - | - | |

1/ Only 66 farmers reporting tenure data in both 1931 and 1937.

2/ Those farmers who were operating in 1931 but had ceased farming by the fall of 1937.

At least a part of the ability of operators with a large acreage of cropland to add land to their operating units during a period when incomes from normal sources were low, and a part of the inability of operators with a small crop acreage to maintain the size of their operating units may be attributed to differences in the amount of their AAA payments. Production-control payments received from 1933 to 1936 by the operators interviewed who were participating in production-control programs, averaged \$165 per farmer per year on farms with less than 300 crop acres. They varied directly with the number of crop acres operated (table 10) and averaged \$1,264 on farms with 900 or more crop acres. They averaged 77 cents per crop acre and 23 cents per acre operated on farms with less than 300 crop acres, compared with 84 cents to \$1.10 per crop acre and 61 to 78 cents per acre operated on farms with a larger acreage of cropland. Based on a reduction in the production of basic commodities, which in this area is primarily wheat, payments during this phase of the programs were naturally much higher on the large farms which had a larger percent of their land in wheat and consequently a larger wheat base.

Table 10.- Average annual AAA payments received by 95 farmers
by number of crop acres operated, Southwestern
Kansas, 1933-36 ^{1/}

| Number of crop acres operated 1937 | Acres per : farm, 1936: | | | Production-control payments, 1933-36 | | | Agricultural-Conservation payments, 1936 | | |
|--|----------------------------|---------------|---------------|---|---------------------|------------------------------|---|---------------------|------------------------------|
| | Number of farmers | Crop- land | Total land | Per farmer | Per crop acre | Per acre oper- ated | Per farmer | Per crop acre | Per acre oper- ated |
| | | | | | | | | | |
| | | | | | | | | | |
| | Number | Acres | Acres | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars |
| Less than 300 | 9 | 215 | 701 | 165 | 0.77 | 0.23 | 191 | 0.89 | 0.27 |
| 300-499 | 24 | 426 | 631 | 469 | 1.10 | .74 | 391 | .92 | .62 |
| 500-699 | 23 | 582 | 750 | 586 | 1.01 | .77 | 494 | .85 | .65 |
| 700-899 | 14 | 778 | 1,077 | 654 | .84 | .61 | 562 | .72 | .52 |
| 900 and over | 25 | 1,404 | 1,627 | 1,264 | .90 | .78 | 1,020 | .73 | .63 |
| All sizes | 95 | 753 | 997 | 705 | .94 | .71 | 588 | .78 | .59 |

^{1/} Only 95 farmers interviewed who received AAA payments.

Source: Data on file in AAA county offices.

Some of the difference in payments between small and large farms was eliminated with the inauguration of the conservation program in 1936. On small-crop farms conservation payments were larger than production-control payments had been, while on large-crop farms they were smaller. On a crop-acre basis conservation payments were highest on farms with a small acreage of cropland. However, on farms with a small acreage of

cropland and a large acreage of pasture, payments per acre operated still were considerably smaller than those on large-crop farms. The group of farms with less than 300 crop acres were larger in point of total acreage than were the group of farms with 300 to 499 crop acres. But because these smaller-crop farmers had retained a substantial portion of their acreage in permanent pasture, a desirable practice which has been recognized as such by the restoration-land program, they were unable to realize maximum benefit from a program with payments which still were based primarily on crop acreage. Some additional emphasis was placed on the conservation of pastures in the 1937 program, but the amount of 1937 payments was not available for many of the farmers at the time of this study, and consequently, they were not included.

Use of Land.

The Census reports show that the percentage of farm land classed as cropland in the 25 counties increased from 51.1 percent in 1930 to 58.5 percent in 1935, while that classed as pasture land decreased from 46.8 to 38.7 percent. The increase in cropland was less marked in the six sample counties where the expansion in crop farming had been greater prior to 1930. Here, the percent of farm land classed as cropland increased from 58.8 percent in 1930 to 63.5 percent in 1935, while that classed as pasture decreased from 38.7 to 33.7 percent.

The cooperators who were interviewed in both 1931 and 1937 were using 75.8 percent of their farm land as cropland and 22.4 percent as pasture in 1931 (table 11). Those who ceased farming by 1937 reported about the same use of land. The cooperators who continued farming reported an almost continuous expansion of their cropland, but, as a group, they had apparently expanded their crop farming about as far as they deemed desirable. The percentage of their farm land used as cropland had increased from 75.8 percent in 1931 to 76.6 percent in 1933, and then gradually decreased to 75.2 percent in 1937. A gradual increase after 1931 in the acreage classed as former cropland serves as further evidence that these farmers believed that they were approaching their optimum crop acreage.

The retrenchment in cropland was not general among all farmers interviewed. The larger operators were using a higher percentage of their farm land as cropland than were the small operators. They continued an expansion of their cropland and a reduction of their pasturage between 1931 and 1937 while the smaller operators were decreasing their cropland and increasing their pasture (table 55). The percent of operators who had increased their acreage of cropland between 1931 and 1937 was directly proportionate, and the percent who had decreased their cropland was inversely proportionate to the number of crop acres operated (table 12).

Table 11.- Use of land operated by 85 identical farmers,
southwestern Kansas, 1931-37 1/

| Year | Acreage per farm | | | | | Total |
|------|------------------|--------------|-----------------|-----------|-------|-------|
| | Cropland | Native grass | Former cropland | Waste and | Acres | |
| | | | <u>2/</u> | farmstead | | |
| | Acres | Acres | Acres | Acres | | |
| 1931 | 695 | 205 | 0 | 17 | 917 | |
| 1932 | 721 | 198 | <u>3/</u> | 27 | 946 | |
| 1933 | 737 | 198 | 1 | 26 | 962 | |
| 1934 | 714 | 198 | 1 | 22 | 935 | |
| 1935 | 734 | 207 | 2 | 26 | 969 | |
| 1936 | 755 | 222 | 3 | 24 | 1,004 | |
| 1937 | 760 | 222 | 4 | 25 | 1,011 | |

1/ Only 85 farmers reporting use of land 1931-37.

2/ Land formerly cropped but now retired from crop production.

3/ Less than 0.5.

Table 12.- Percentage of 85 identical farmers 1/ reporting change between
1931 and 1937 in the acreage of their cropland and
pasture land, by number of crop acres
operated, southwestern Kansas

| Number of crop acres operated, 1937 | Percent reporting change: in cropland | | | Percent reporting change: in pasture | | |
|---|--|----------|-----------|---|----------|-----------|
| | Increase | Decrease | No change | Increase | Decrease | No change |
| | Percent | Percent | Percent | Percent | Percent | Percent |
| | | | | | | |
| Less than 300 acres | 0 | 67 | 33 | 56 | 33 | 11 |
| 300 - 499 acres | 14 | 48 | 38 | 24 | 47 | 29 |
| 500 - 699 acres | 45 | 20 | 35 | 20 | 25 | 55 |
| 700 - 899 acres | 84 | 8 | 8 | 50 | 8 | 42 |
| 900 acres and over | 74 | 13 | 13 | 39 | 17 | 44 |
| All sizes | 46 | 28 | 26 | 34 | 27 | 39 |

1/ Only 85 farmers reporting use of land in both 1931 and 1937.

Most of the shift in land use on the various sizes of farms resulted from a movement of small operators to land with a relatively high proportion of grassland, and the acquisition by large operators of land with a relatively high proportion of cropland. The increase in the acreage of grass on the small farms resulted from some farmers having moved to units with a higher proportion of grassland than those formerly operated, and other farmers having added grassland to their original units. Few, if any, of these small operators had actually shifted cropland to permanent grass and some had even broken a portion of their native sod. On the other hand, the larger operators had increased their cropland and reduced their pasture by breaking native sod as well as by acquiring land with a high proportion of cropland.

There was little difference in the use of land of different tenure. In 1931, pasture comprised a slightly higher proportion and cropland a smaller proportion of owner-operated land than of rented land, but there was little difference by 1937 (table 13).

Table 13.- Use of land of different tenure by 66 identical farmers, southwestern Kansas, 1931 and 1937 ^{1/}

| Tenure | Number of farmers reporting | Acres per farm (66 farms) | |
|---------------------|-----------------------------------|------------------------------|-------|
| | | 1931 | 1937 |
| | | Acres | Acres |
| Owned land: | | | |
| Cropland | 52 | 351 | 366 |
| Native grass | 47 | 125 | 104 |
| Former cropland | 3 | 0 | 1 |
| Farmstead and waste | 50 | 10 | 14 |
| Total owned | 52 | 486 | 485 |
| Rented land: | | | |
| Cropland | 55 | 412 | 464 |
| Native grass | 39 | 114 | 150 |
| Former cropland | 3 | 0 | 3 |
| Farmstead and waste | 51 | 9 | 13 |
| Total rented | 55 | 535 | 630 |
| Land rented out: | | | |
| Cropland | 9 | 31 | 27 |
| Native grass | 2 | 3 | 1 |
| Farmstead and waste | 6 | 0 | 2/ |
| Total rented out | 9 | 34 | 28 |
| Land operated: | | | |
| Cropland | 66 | 732 | 803 |
| Native grass | 64 | 236 | 253 |
| Former cropland | 6 | 0 | 4 |
| Farmstead and waste | 66 | 19 | 27 |
| Total operated | 66 | 987 | 1,087 |

^{1/} Only 66 farmers reporting use of land of different tenure in both 1931 and 1937.

^{2/} Less than 0.5 acres.

Crop Production and Use of Cropland.

The wheat acreage seeded for the 1937 crop on the farms studied was in excess of that seeded for any crop from 1932-36 (table 14). It was only 7 percent smaller than the record acreage seeded for the 1931 crop. When expressed as a percentage of cropland, the acreage seeded to wheat for the 1931 crop ranged from 69.5 percent on the farms studied in Meade County to 83.5 percent on those in Gray County, averaging 77 percent on all farms studied. It fluctuated considerably from 1931-37, decreasing in 1932, increasing in 1933, decreasing in 1934 as a result of production control programs and drought, increasing in 1935, decreasing to its lowest point during the 7-year period in 1936, and again increasing in 1937 after the emphasis of AAA programs had shifted from production control to conservation.

Table 14.- Crop acreage per farm and acreage seeded to wheat by 80 identical farmers, by counties, southwestern Kansas, 1931-37 ^{1/}

| County | : Number : | | Crop acreage per farm | | | | | | |
|--------------|------------|---------|-------------------------------|---------|---------|---------|---------|-------|--|
| | : of : | : | : | : | : | : | : | : | |
| | : farms: | 1931 : | 1932 : | 1933 : | 1934 : | 1935 : | 1936 : | 1937 | |
| | : No. : | Acre: | Acre: | Acre: | Acre: | Acre: | Acre: | Acre: | |
| | : | : | : | : | : | : | : | : | |
| Clark | : 14 : | 560 : | 562 : | 589 : | 605 : | 627 : | 683 : | 679 | |
| Finney | : 14 : | 643 : | 751 : | 729 : | 623 : | 699 : | 701 : | 703 | |
| Ford | : 10 : | 506 : | 487 : | 484 : | 496 : | 535 : | 535 : | 497 | |
| Grant | : 9 : | 1,304 : | 1,347 : | 1,435 : | 1,449 : | 1,453 : | 1,624 : | 1,611 | |
| Gray | : 21 : | 630 : | 637 : | 634 : | 602 : | 619 : | 619 : | 636 | |
| Meade | : 12 : | 813 : | 810 : | 863 : | 849 : | 850 : | 854 : | 899 | |
| All counties | : 80 : | 708 : | 731 : | 748 : | 725 : | 752 : | 783 : | 787 | |
| | : | : | Wheat acreage seeded per farm | | | | | | |
| | : | : | | | | | | | |
| Clark | : 14 : | 425 : | 381 : | 417 : | 380 : | 405 : | 454 : | 492 | |
| Finney | : 14 : | 467 : | 389 : | 454 : | 368 : | 401 : | 339 : | 380 | |
| Ford | : 10 : | 411 : | 330 : | 344 : | 318 : | 383 : | 365 : | 314 | |
| Grant | : 9 : | 959 : | 709 : | 642 : | 724 : | 847 : | 758 : | 899 | |
| Gray | : 21 : | 526 : | 461 : | 473 : | 381 : | 413 : | 380 : | 451 | |
| Meade | : 12 : | 565 : | 541 : | 623 : | 528 : | 546 : | 534 : | 611 | |
| All counties | : 80 : | 544 : | 458 : | 485 : | 431 : | 475 : | 450 : | 503 | |

^{1/} Only 80 farms reporting data on total crop and seeded wheat acreage, 1931-37.

In Clark and Meade Counties in the southeastern part of the area, the wheat acreage reached its low point in 1934 and then increased through 1937. In these two counties the acreage per farm seeded for the 1937 crop exceeded that planted for the record 1931 crop, although the percentage of cropland seeded was slightly smaller because of an increase in the cropland. In Grant County in the western part of the area, the acreage of

wheat seeded per farm in 1937 exceeded that of any year since 1931. In the central counties, the acreage seeded per farm in 1937 was generally in excess of that seeded in 1934-36, but it was smaller than that seeded in 1931-33. In Ford County only was the acreage seeded in 1937 less than that seeded in any of the six preceding years.

The wheat acreage was not maintained at a relatively high level because of good yields. The yield per seeded acre reported by 41 identical farmers was 21.0 bushels in 1931, but it dropped to 5.6 bushels in 1932, and thereafter was little in excess of seed requirements (table 15). It is evident that AAA payments or other Government payments must have enabled these wheat farmers to maintain their acreage at a relatively high level. The yield of wheat on land that had been fallowed was considerably higher than that on land that had been in wheat or row crops (table 16), but less than one-fourth of the acreage was seeded on fallow (table 17).

Table 15.- Wheat production by 41 identical farmers, southwestern Kansas, 1931-37 ^{1/}

| Year | : Cropland | | : Seeded | | : Wheat yield per- | |
|------|------------|---------|-----------|------|--------------------|--|
| | : per farm | | : wheat | | : Harvested | |
| | : Acres | | : Percent | | : Bushels | |
| | | Percent | Percent | | | |
| 1931 | 710 | 76.7 | 90.2 | 21.0 | 23.3 | |
| 1932 | 749 | 65.4 | 64.8 | 5.6 | 8.6 | |
| 1933 | 740 | 65.9 | 14.1 | .6 | 4.4 | |
| 1934 | 737 | 61.0 | 42.9 | 1.6 | 3.8 | |
| 1935 | 749 | 62.0 | 21.8 | .9 | 4.2 | |
| 1936 | 776 | 57.9 | 40.0 | 2.1 | 5.2 | |
| 1937 | 792 | 65.1 | 41.1 | 2.4 | 5.8 | |

^{1/} Only 41 farmers reporting complete data on wheat production, 1931-37.

Table 16.- Production of wheat in 1937 on land in different uses in 1936, southwestern Kansas

| Use of land in 1936 | : Acres seeded: | | : Yield per acre, 1937 | |
|------------------------|-------------------|---------|------------------------|---------|
| | : per farm | | : Harvested : Seeded | |
| | Acres | Percent | Bushels | Bushels |
| Wheat | 341 | 33.7 | 5.1 | 1.7 |
| Summer fallow | 115 | 73.0 | 10.5 | 7.6 |
| Row crop | 34 | 22.2 | 5.3 | 1.2 |
| All uses | ^{1/} 491 | 42.3 | 7.3 | 3.1 |

^{1/} Includes 1 acre on idle ground and less than 0.5 acre on sod.

Table 17.- Percentage of farmers seeding and percent of 1937 wheat acreage seeded on land in different uses in 1936, by counties, southwestern Kansas

| County | : Num- ber of farms | : Wheat seeded per farm | :Percentage of farmers seeding : wheat on land previously in : | | | | | : Percentage of wheat acreage seeded on | | | | |
|-----------|------------------------------|----------------------------------|--|----------------|----------------|----------------|----------------|--|----------------|----------------|----------------|----------------|
| | | | :Wheat | :Summer | : Row | : Idle | : Sod | :Wheat | :Summer | : Row | : Idle | : Sod |
| | | | : fallow | : crops | | | | : fallow | : crops | | | |
| | :Number | : Acres | : Per- cent | : Per- cent | : Per- cent | : Per- cent | : Per- cent | : Per- cent | : Per- cent | : Per- cent | : Per- cent | : Per- cent |
| Clark | : 17 | : 458 | : 100 | : 82 | : 24 | : 0 | : 0 | : 74 | : 20 | : 6 | : 0 | : 0 |
| Finney | : 13 | : 348 | : 100 | : 23 | : 38 | : 8 | : 0 | : 80 | : 13 | : 5 | : 2 | : 0 |
| Ford | : 14 | : 342 | : 93 | : 79 | : 7 | : 0 | : 0 | : 71 | : 28 | : 1 | : 0 | : 0 |
| Grant | : 13 | : 761 | : 92 | : 85 | : 54 | : 0 | : 0 | : 72 | : 15 | : 13 | : 0 | : 0 |
| Gray | : 22 | : 441 | : 86 | : 86 | : 41 | : 5 | : 5 | : 65 | : 26 | : 9 | : 1/ | : 1/ |
| Meade | : 11 | : 681 | : 82 | : 64 | : 27 | : 0 | : 0 | : 60 | : 37 | : 3 | : 0 | : 0 |
| All | | | | | | | | | | | | |
| counties: | 2/90 | : 491 | : 92 | : 72 | : 32 | : 2 | : 1 | : 69 | : 24 | : 7 | : 1/ | : 1/ |

1/ Less than 0.5 percent.

2/ Only 90 farmers indicated previous use of cropland seeded to wheat for 1937 crop.

Corn production was practically abandoned on these farms by 1937, the percentage of cropland planted to corn having decreased from 7.0 percent in 1931 to 0.3 percent in 1937 (table 18). Most of the land formerly planted to corn was planted to sorghums, the percentage of cropland planted to sorghums having doubled between 1931 and 1937.

Table 18.- Use of cropland by 71 identical farmers, southwestern Kansas, 1931 and 1937 1/

| Year | :Crop-: Percent of cropland occupied by: | | | | | | | |
|------|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | : land | : Other | : Sor- | : Other | : Summer | : Idle | | |
| | : per | : Wheat | : small | : Corn | : ghums | : crops | : fallow | |
| | : farm | : grains | | | | | | |
| | : Acres | : Percent | : Percent | : Percent | : Percent | : Percent | : Percent | : Percent |
| 1931 | : 728 | : 75.6 | : 1.8 | : 7.0 | : 7.8 | : 2.7 | : 5.1 | : 0.0 |
| 1937 | : 790 | : 60.4 | : 1.1 | : .3 | : 15.6 | : 2.3 | : 15.7 | : 4.6 |

1/ Only 71 farmers reporting complete data on use of cropland in both 1931 and 1937.

Apparently the acreage taken out of wheat was not planted to other crops. None of the cropland was idle in 1931 and only 5.1 percent was fallowed, but by 1937, 15.7 percent of the cropland was fallowed and 4.6 percent was idle. The net increase in these two uses of land comprised 15.2 percent of the cropland, an increase that exactly offset the decrease in wheat acreage.

The largest decrease in the percent of cropland seeded to wheat was made on the largest farms (table 56). The largest farms also increased slightly the percent of cropland planted to all row crops whereas the small farms showed a slight decrease. The small farms, with about two-thirds of their farm land in native grass, had retained about one-half their cropland in small grains, one-fourth in row crops, and one-fourth as summer fallow or idle. On the other hand, the largest farms, with less than one-tenth of their farm land in native grass, still had about three-fifths of their cropland in wheat, less than one-fifth in row crops, and one-fifth as summer fallow or idle.

The proportions of farmers reporting row crops, summer fallow, and idle cropland changed materially from 1931-37 but the proportion reporting wheat was almost constant. All of the farmers seeded wheat for the 1931 crop and all but one seeded wheat for the 1937 crop (table 57). The proportions who planted corn and kafir dropped considerably while those planting milo and forage sorghums, and those reporting summer fallow and idle cropland increased.

Presumably the shift from corn to sorghums was due primarily to drought conditions. Some of the decrease in wheat acreage and some of the increase in idle cropland was a result of diversion payments. Had there been no AAA payments to finance tillage operations, the decrease in wheat acreage and the increase in idle cropland would have been considerably larger and natural revegetation would have begun on some of the acreage unsuited to crop production. However, other acreage may have eroded severely and tillage was no doubt essential on such acreage.

The increase in summer fallow was probably due largely to the AAA programs. Most of the fallow in 1937 was classed under the program as "controlled summer fallow" and substantial payments were made in 1936 and 1937 for this type of land use. For the most part, the increase in summer fallow was desirable in that wind erosion was controlled and moisture conserved. In some instances, land seeded to wheat was later classed as controlled summer fallow after the wheat crop failed to go through the winter or spring; and in others, an infrequent "scratching" of the surface of the ground merely to qualify for AAA payments accentuated wind erosion and consequently damaged, rather than conserved, the soil.

Livestock.

Livestock production on most of the farms studied was a minor enterprise in 1931; but all classes of livestock - cattle, hogs, horses, sheep, and poultry - had been reduced between 1931 and 1937. Numbers of milk cows had been increased and stock cows maintained at the 1931 level, but numbers of all cattle had been reduced 28 percent; hogs, 68 percent; horses, 58 percent; sheep, a minor enterprise, 84 percent; and poultry, 17 percent (table 19).

Table 19.- Numbers of livestock per farm reported by 65 identical farmers, southwestern Kansas, January 1, 1931 and October 1, 1937 ^{1/}

| Year | Average number of livestock per farm | | | | | | | | | |
|------|--------------------------------------|----------------|-----------------|-----------------|----------------|----------------|----------------|--------|-------|--------------|
| | Milk: cows | Stock: cows | Other cattle | Total cattle | Brood: sows | Other: hogs | Total: hogs | Horses | Sheep | Poul- try |
| 1931 | 3.9 | 6.2 | 25.5 | 35.6 | 1.7 | 8.8 | 10.5 | 3.8 | 3.2 | 144.2 |
| 1937 | 5.2 | 6.3 | 14.0 | 25.5 | .6 | 2.8 | 3.4 | 1.6 | .5 | 120.2 |

^{1/} Only 65 farmers reporting numbers of livestock in both 1931 and 1937.

Reflecting the farmers' need for income from other than normal sources, numbers of milk cows had been increased on all sizes of farms except the group of farms with from 500 to 699 crop acres (table 58). On this group of farms they had been maintained at about the 1931 level. Stock cows were increased on the larger farms, but decreased on the smaller farms, while numbers of other cattle were reduced on all sizes of farms except those with less than 300 crop acres. Numbers of all cattle were reduced the least on the group of smallest farms where the acreage of native grass was increased the most. However, the next smallest reduction was made on the group of largest farms where the acreage of native grass was reduced the most. The largest decrease in numbers of all cattle was on the medium-sized farms where the acreage of native pasture had decreased or had increased very little. Farmers operating less than 300 crop acres had retained one head of cattle for each 16 acres of native grass under their control. Those operating from 300 to 899 acres of cropland had one head for each 9 acres of grass, while those with 900 or more crop acres had only 6 acres of grass for each head of cattle on their farms in 1937. The acreage seeded to sorghums ranged from an average of 2 acres per head of cattle on the group of smallest farms to about 7 acres per head on the largest farms; but on the basis of production in recent years this was hardly sufficient to offset the deficiencies in pasturage.

Numbers of both hogs and horses were reduced on all sizes of farms, the reduction being largest on the smaller farms. Numbers of poultry were maintained at about the 1931 level on the medium and large farms, but they were decreased considerably on the small farms.

In spite of the fact that these farmers normally depend primarily on cash grain for their income, nearly all of them had some cattle in both 1931 and 1937 (table 59). The proportion who reported different numbers remained fairly constant on both the small and the large farms, but on the medium-sized farms the proportion who had small herds (10 head or less) increased between 1931 and 1937, while those reporting relatively large herds (more than 50 head) decreased. Nearly one-half the farmers had brood sows in 1931, but four out of five reported none in 1937. One-fourth had no horses in 1931 and one-half had two or less, but by 1937 these proportions had increased to one-half and three-fourths. The proportion who had no poultry or only a small flock (less than 50) increased on the small farms and decreased or remained constant on the large farms.

Some of the reduction in livestock was no doubt made to provide the operators with funds for operating expenses, but much of the reduction came as a result of drought conditions and depleted feed supplies. Unlike the wheat enterprise, the maintenance of which was made possible by production-control payments, the livestock enterprises had to be reduced when they did not yield sufficient returns to maintain themselves. When an operator was unable to maintain both his livestock and his wheat enterprises, he reduced or entirely liquidated the former since the wheat enterprise assured him some income in the form of AAA payments. These reductions in livestock reflect the operators' increased dependence on crop production for income and in lieu of crop production, their increased dependence on Government payments.

Power Machinery.

Mechanization had not reached its peak on the wheat farms of southwestern Kansas by 1931. All of the farmers interviewed reported tractors in both 1931 and 1937, but with the exception of Grant County, where some farmers no doubt had excessive equipment in 1931, the number of tractors per farm increased between 1931 and 1937 in all counties sampled (table 20). The average value per tractor declined in all counties sampled, the average reduction being from \$695 to \$476, a reduction of 32 percent.

The proportion of farmers reporting combines and the number of combines per farm decreased, but this was probably due to the crop failures of recent years and the lack of need for harvesting equipment. Some farmers had lost their combines, but others, who were financially able to do otherwise, had turned their combines back to the implement companies for the paper held against them, and were anticipating the purchase of new equipment when they had need for it. The number of combines per 100 farms remained constant in Clark, Ford, and Gray Counties, but it decreased in Finney, Grant, and Meade Counties, and as an average in all of the counties sampled. A return of wheat yields to normal or to the high point of the late twenties and early thirties would no doubt bring a marked increase in the number of combines on these farms. The average value per combine had declined from \$1,079 to \$421, a decrease of 61 percent.

Table 20.- Number and average value of power machinery reported on farms by counties, southwestern Kansas, 1931 and 1937

| Item | : Number : : of farms : : reporting : | | : Percentage of : : farmers report- : : ing machines : | | : Average number : : of machines : : per 100 farms : | | : Average value : : per machine : | |
|-----------|---|---------------------|--|----------------------|--|---------------------|--------------------------------------|------------------------|
| | : 1931 : | : 1937 : | : 1931 : | : 1937 : | : 1931 : | : 1937 : | : Jan.1, : : 1931 : | : Oct.1, : : 1937 : |
| | : Num- : : ber : | : Num- : : ber : | : Per- : : cent : | : Per- : : cent : | : Num- : : ber : | : Num- : : ber : | : Dol- : : lars : | : Dol- : : lars : |
| Tractors: | : | : | : | : | : | : | : | : |
| Clark | : 13 : | : 17 : | : 100 : | : 100 : | : 115 : | : 135 : | : 453.20 : | : 444.57 : |
| Finney | : 13 : | : 16 : | : 100 : | : 100 : | : 115 : | : 138 : | : 826.40 : | : 381.14 : |
| Ford | : 12 : | : 14 : | : 100 : | : 100 : | : 125 : | : 136 : | : 593.33 : | : 528.95 : |
| Grant | : 12 : | : 13 : | : 100 : | : 100 : | : 225 : | : 177 : | : 845.11 : | : 611.96 : |
| Gray | : 21 : | : 22 : | : 100 : | : 100 : | : 124 : | : 127 : | : 720.00 : | : 386.07 : |
| Meade | : 8 : | : 11 : | : 100 : | : 100 : | : 162 : | : 191 : | : 582.15 : | : 534.29 : |
| All | : | : | : | : | : | : | : | : |
| counties | : 79 : | : 93 : | : 100 : | : 100 : | : 141 : | : 146 : | : 695.20 : | : 476.21 : |
| Combines: | : | : | : | : | : | : | : | : |
| Clark | : 13 : | : 17 : | : 85 : | : 88 : | : 92 : | : 92 : | : 884.50 : | : 493.75 : |
| Finney | : 13 : | : 16 : | : 92 : | : 75 : | : 100 : | : 81 : | : 891.92 : | : 438.85 : |
| Ford | : 12 : | : 14 : | : 100 : | : 100 : | : 100 : | : 100 : | : 986.00 : | : 323.93 : |
| Grant | : 12 : | : 13 : | : 100 : | : 77 : | : 150 : | : 108 : | : 1312.33 : | : 322.14 : |
| Gray | : 21 : | : 22 : | : 95 : | : 91 : | : 95 : | : 95 : | : 1158.80 : | : 425.00 : |
| Meade | : 8 : | : 11 : | : 75 : | : 64 : | : 88 : | : 73 : | : 1095.00 : | : 581.25 : |
| All | : | : | : | : | : | : | : | : |
| counties | : 79 : | : 93 : | : 92 : | : 84 : | : 104 : | : 92 : | : 1079.32 : | : 421.22 : |
| Trucks: | : | : | : | : | : | : | : | : |
| Clark | : 13 : | : 17 : | : 85 : | : 88 : | : 69 : | : 92 : | : 431.00 : | : 230.31 : |
| Finney | : 13 : | : 16 : | : 62 : | : 75 : | : 100 : | : 81 : | : 352.77 : | : 228.08 : |
| Ford | : 12 : | : 14 : | : 75 : | : 79 : | : 75 : | : 86 : | : 332.22 : | : 189.58 : |
| Grant | : 12 : | : 13 : | : 100 : | : 85 : | : 106 : | : 131 : | : 503.06 : | : 222.06 : |
| Gray | : 21 : | : 22 : | : 86 : | : 100 : | : 95 : | : 95 : | : 267.44 : | : 119.05 : |
| Meade | : 8 : | : 11 : | : 50 : | : 73 : | : 44 : | : 82 : | : 316.67 : | : 316.67 : |
| All | : | : | : | : | : | : | : | : |
| counties | : 79 : | : 93 : | : 78 : | : 85 : | : 85 : | : 95 : | : 376.89 : | : 205.11 : |

The proportion of the farmers reporting trucks increased in all of the counties except Grant County. The number of trucks per farm increased in all but Gray County, where it was unchanged. The increase in the number of trucks was due largely to an increase in pick-up trucks. Some farmers had purchased these light trucks to replace worn out automobiles and were using them for the family automobile as well as for general farm work. It is not unlikely that an increase in wheat yields on these farms would bring an increase in the number of trucks better suited to hauling grain. The average value per truck had declined from \$377 to \$205, a reduction of 46 percent.

The amount of old machinery on hand in 1937 serves as further evidence that a "normal" crop of wheat would require additional machinery. One-half of the tractors and trucks and three-fourths of the combines on 79 farms studied in 1931 were still on those farms in 1937 (table 21). Fifty-eight percent of the farmers were still operating the same tractors in 1937 that they were operating in 1931. Seventy-one percent were operating combines and 44 percent were operating trucks that had been carried over.

Table 21.- Proportion, value, and depreciation of power machinery carried over from 1931 to 1937 on 79 identical farms, southwestern Kansas ^{1/}

| Machine | : Percent | : Percent | Average value | | Annual depreciation | |
|----------|-------------|-------------|---------------|---------|---------------------|--------------|
| | : of farms | : of | per machine | | 1931-37 | |
| | : with | : 1931 | | | | |
| | : machines: | : machines: | 1931 | 1937 | Per | Percent of |
| | : carried | : carried | | | : machine | : 1931 value |
| | : over | : over | | | | |
| | : Percent | : Percent | Dollars | Dollars | Dollars | Percent |
| | : | : | : | : | : | : |
| Tractors | : 58.2 | : 49.5 | : 736 | : 284 | : 64.59 | : 8.8 |
| Combines | : 70.9 | : 75.6 | : 1,134 | : 405 | : 104.25 | : 9.2 |
| Trucks | : 44.3 | : 49.3 | : 471 | : 113 | : 51.12 | : 10.9 |
| | : | : | : | : | : | : |

^{1/} Only 79 farmers reporting major machinery data in both 1931 and 1937.

During the 7-year period from 1931-37 the average value of the tractors carried over had declined from \$736 to \$284, an annual depreciation of \$65 per tractor. The average value of combines carried over had declined from \$1,134 to \$405, and trucks from \$471 to \$113, an annual depreciation of \$104 per combine and \$51 per truck. On this basis the future life for these implements was still about 4 years for the tractors and combines, and 2 years for the trucks, but a large harvest would probably induce the trading-in of many of them on new machines. Farmers interviewed in 1931 had, as an average, estimated the depreciation in that year at \$206 per tractor, \$297 per combine, and \$134 per truck.^{4/} They estimated the life of tractors at 6 years; combines 7 years; and trucks, 8 years.

The succession of crop failures undoubtedly had some influence in lengthening the life of these machines beyond the farmers' 1931 estimate, but it is evident that these farmers were making a concerted effort to get by with as low a machinery cost as possible. AAA payments and other Government payments may have enabled these farmers to continue their operations but they did not enable them to prevent excessive depreciation of their power machinery.

^{4/} "Farm Machinery in Southwest Kansas," unpublished report on file at Kansas Agricultural Experiment Station and B.A.E., U.S.D.A.

Tillage Practices

Preparation of Seedbed for Wheat.

The one-way plow was the most commonly used implement in the preparation of the seedbed for the 1931 wheat crop. It was used by 85 percent of the farmers interviewed and it was the only implement, or the principal implement used in preparing 64 percent of the acreage seeded (table 22).

Table 22.- Methods of seedbed preparation reported for 1931 and 1937 wheat crops, southwestern Kansas 1/

| Method | Percent of farmers using method | | Percent of acreage prepared | |
|------------------|------------------------------------|---------|--------------------------------|---------|
| | 1931 | 1937 | 1931 | 1937 |
| | Percent | Percent | Percent | Percent |
| One-way plow | 85.1 | 66.7 | 63.7 | 40.1 |
| Lister | 34.2 | 43.3 | 12.2 | 14.5 |
| Field-cultivator | 0.0 | 36.7 | 0.0 | 18.3 |
| Moldboard plow | 42.6 | 21.1 | 13.3 | 4.2 |
| Disc plow | 18.9 | 7.8 | 6.4 | 1.3 |
| Chisel | 0.0 | 5.6 | 0.0 | 5.8 |
| Buster | 14.2 | 5.6 | 1.7 | 0.9 |
| Disc | 6.1 | 8.9 | 0.9 | 13.3 |
| No preparation | 9.5 | 12.2 | 1.8 | 1.6 |

1/ Methods grouped according to major implement used.

A series of dry years, during which there was little production of a crop residue which might be left on the land, little humus was returned to the soils, and wind erosion was becoming a serious problem, together with the pulverizing effect of the one-way plow on dry soils, led to a decrease in its use and an increase in the use of deep-tillage implements. Forty percent of the acreage for the 1937 crop was prepared with the one-way, but 43 percent, as compared with only 25 percent of the acreage for the 1931 crop, was prepared with deep-tillage implements.5/ These implements were also used a great deal to supplement the preparation of the seedbed with other implements. Eleven percent of the acreage prepared primarily with the one-way, 19 percent of that prepared with the lister, and 3.8 percent of that which was plowed, was tilled at least once with the field-cultivator.

The chisel and field-cultivator were not used in 1931 on any of the farms studied. They were first used in the area during the recent dry years in an attempt to prevent water run-off and wind erosion. They

5/ Implements classed as deep-tillage were: Lister, field-cultivator, moldboard plow, and chisel.

proved to be successful and by the fall of 1936 the cultivator was being used by 37 percent of the farmers interviewed and the chisel by 6 percent. The proportion of the farmers using a lister had increased, but that of farmers using moldboard plows and disc plows had been reduced by a half.

Use of the different implements in preparing the 1937 seedbed for wheat varied throughout the area with the preceding use of the land. With the exception of Finney and Grant Counties, the one-way was the principal implement used in preparing for wheat following wheat (table 60). In Grant County the lister and field-cultivator were the principal implements used, while in Finney County it was the disc. In all but Grant County more summer-fallow acreage for the 1937 wheat crop was prepared with the field-cultivator than with any other implement. It was supplemented chiefly with the lister in Finney County, the chisel and lister in Meade County, and the one-way, lister and moldboard plows in Clark, Ferd and Gray Counties. The lister, disc, one-way and chisel were the implements used on summer fallow for wheat in Grant County.

Wheat on row-crop ground was limited chiefly to Clark, Grant and Gray Counties. Most of that in Clark County was prepared with a field-cultivator, one-way or buster, while that in Grant County was prepared with a chisel, disc or buster. Thirty percent of the row-crop ground seeded to wheat in Gray County had no preparation following the final cultivation of the row crop, while most of the balance was prepared with a one-way, disc or buster.

It was not possible to determine quantitatively just how much effect the AAA programs have had in bringing about these changes in the methods of preparing the wheat seedbed. It is not likely that they had any direct effect previous to 1936 since the earlier programs were designed almost wholly for the control of crop surpluses. The shift in the emphasis of the programs to conservation in 1936 may have resulted in some inducement in some counties for the use of deep-tillage implements, but the first conservation program did not specifically require the use of these newer implements. It is probable that previous to 1937, the major contribution of the programs to the use of deep-tillage implements was the maintenance of the farmers' purchasing power. The AAA payments did provide purchasing power to farmers who would have been unable to purchase and operate these new implements without financial assistance from outside source.

Summer Fallow.

Changes in the methods of summer fallowing land were similar, though more marked, than those of preparing the wheat seedbed. From a point of being used to prepare 36 percent of the summer-fallow land in 1930, the use of the one-way plow had declined till it was being used to prepare only 11 percent of the summer-fallow land in 1937 (table 23). The moldboard plow had been used to prepare 58 percent of the summer fallow in 1930, but it was used on only 8 percent of the acreage in 1937. On the other hand, the field-cultivator, the chisel and the disc, all unused on summer fallow in 1930, were used considerably in 1937. The use of the lister increased from a point of preparing 6 percent of the acreage in 1930, to 34 percent in 1937.

Table 23.- Methods used to summer-fallow land, southwestern Kansas, 1930 and 1937 ^{1/}

| Method | Percent of farmers using method | | Percent of acreage prepared | |
|------------------|------------------------------------|---------|--------------------------------|---------|
| | 1930 | 1937 | 1930 | 1937 |
| | Percent | Percent | Percent | Percent |
| One-way plow | 42 | 20 | 36 | 11 |
| Lister | 9 | 49 | 6 | 34 |
| Field-cultivator | 0 | 30 | 0 | 30 |
| Moldboard plow | 58 | 18 | 58 | 8 |
| Chisel | 0 | 9 | 0 | 11 |
| Disc | 0 | 5 | 0 | 6 |

^{1/} Methods grouped according to major implement used.

Much of the increase by 1937 in the use of the lister, chisel, and field-cultivator to summer-fallow land can no doubt be attributed directly to the AAA program, since the use of only those implements was acceptable for many of the soil-building and wind-erosion control payments in 1937. The need for these implements grew primarily out of the need for erosion-control practices. AAA payments made their purchase possible and, in 1937, encouraged their use.

The amount of conservation which was accomplished by the use of these deep-tillage implements was dependent, to a large degree, upon physical conditions and the manner and timeliness of their use. There were, no doubt, instances where the primary purpose for using these implements was to qualify for AAA payments, but for the most part it is probable that the use of deep-tillage implements did result in an increase in the conservation of both moisture and soils.

Financial Status of Operators and Condition of Equipment

Value of Farm Property.

The value of farm property declined over 34 percent between January 1, 1931 and October 1, 1937 (table 24). The reported value of land and buildings declined some 33 percent, while that of working capital declined 38 percent. The value of feed and supplies declined 23 percent; machinery, 36 percent; and livestock, 50 percent.

Table 24.- Acreage owned and average value of farm property reported by 78 identical farmers, southwestern Kansas, January 1, 1931 and October 1, 1937 ^{1/}

| Year | : Acres : : per farm: : owned | : Value of : : land and : : buildings: | : Ma- : : chinery: | : Live- : : stock: | : Feed and : : supplies: | : Value of working capital : : Total working : : capital : | : Total : : value |
|------|-------------------------------------|--|-----------------------|-----------------------|-----------------------------|--|----------------------|
| | | : Dollars | : Dollars | : Dollars | : Dollars | : Dollars | : Dollars |
| 1931 | : 463 | : 18,450 | : 3,800 | : 2,100 | : 1,271 | : 7,171 | : 25,621 |
| 1937 | : 438 | : 12,363 | : 2,425 | : 1,050 | : 985 | : 4,460 | : 16,823 |

^{1/} Only 78 farmers reporting value of farm property in both 1931 and 1937.

Most of the decline in the value of owned real estate was a result of decreased land values. The acres of owned land had declined about five percent, but the average value of owned land had declined from \$39.85 an acre to \$28.23 an acre, a decrease of 29 percent. The decrease in the value of feed and supplies was entirely the result of depleted supplies since feed and grain prices were higher in 1937 than in 1931. Decreases in the value of machinery resulted primarily from depreciation and a lack of repairs and replacements, while decreases in the value of livestock were a result of reductions in numbers.

The largest decline in the value of farm property was on farms with a small acreage of cropland where the AAA payments were lowest. On these farms the value of all farm property declined over 50 percent, the value of owned real estate having declined 46 percent, as a result of lower values and decreased acreages, and that of working capital having declined 60 percent (table 61). The value of feed and supplies had increased slightly but that of machinery declined 46 percent and that of livestock declined 76 percent. The smallest decline in the value of all farm property was on farms with the largest acreage of cropland where AAA payments were highest. Here the value of owned real estate had declined only 21 percent, lower values having been partly offset by larger acreages. The value of machinery declined only 25 percent and livestock 41 percent, while the value of feed and supplies had increased 19 percent. Apparently the amount of AAA payments received by the farmer was an important factor governing his ability to maintain his capital.

There was no significant change between 1931 and 1937 in the proportion of the total value of farm property represented by land and buildings and that represented by working capital. The proportion of the working capital represented by machinery had changed but little, but that represented by livestock had declined while that represented by feed and supplies had increased.

In 1931 the value of machinery per crop acre operated ranged from \$6.60 to \$4.51, and averaged \$5.31 for all farms. It had been reduced to an average of \$3.08 per crop acre operated in 1937, ranging in that year

from \$5.46 on the farms with less than 300 crop acres to \$2.67 on the farms with 700 to 899 crop acres. In spite of a proportionately large reduction in machinery valuation, the small general farms still had a much larger machinery valuation per crop acre than did the large wheat farms.

A high machinery valuation per crop acre implies a high machinery cost per crop acre. When crops fail, out-of-pocket machine expense applies only to tillage and seeding machinery, but depreciation and capitalization charges are expenses incurred by all machines in all years and the amount of such expenses is generally proportionate to the investment in machinery. Because of the advantages of specialization and large-scale operations, large-scale wheat farms can be operated efficiently with a much smaller machinery investment per crop acre than can farms with a small acreage of cropland, even though the latter may have a relatively large acreage of grassland and, consequently, an adequate size-of-operating unit. This, together with the fact that farmers operating the smallest acreage of cropland received the smallest AAA payments per crop acre during the production-control phase of the programs, is reflected in the proportionately large loss that these small-crop farmers suffered in machinery valuation. However, the adoption of the conservation phase of the programs tended to bring small-crop farmers' payments more nearly in line with their cropping expense.

Financial Status of Farm Operators.

All of the farmers operating farms with less than 700 crop acres, 7 out of 8 operating farms with 700 to 899 crop acres, and 16 out of 21 operating farms with 900 or more crop acres, reported a decline in the value of their assets between 1931 and 1937. Only 6 out of 63 farmers reported an increase in the value of assets and they were all operating large farms and receiving relatively large AAA payments. The decline in the value of assets ranged from 61 percent on farms with less than 300 crop acres to 20 percent on farms with 900 or more crop acres, and averaged 34 percent on all farms (table 25).

Table 25.- Assets, indebtedness, and net worth reported by 63 identical farmers by number of crop acres operated, southwestern Kansas, 1931 and 1937 ^{1/}

| Number of crop acres operated | Num- ber : of : farms: | Total assets | | Total indebtedness | | Net worth | |
|-------------------------------------|---------------------------------|--------------|----------|-----------------------|----------|-----------|---------|
| | | 1931 | 1937 | 1931 | 1937 | 1931 | 1937 |
| | No. : | Dollars: | Dollars: | Dollars: | Dollars: | Dollars: | Dollars |
| Less than 300: | 5 : | 18,196 : | 7,042 : | 3,247 : | 3,221 : | 14,949 : | 3,821 |
| 300 - 499 | 15 : | 18,490 : | 12,523 : | 4,553 : | 5,286 : | 13,937 : | 7,237 |
| 500 - 699 | 14 : | 21,387 : | 10,519 : | 2,659 : | 3,912 : | 18,728 : | 6,607 |
| 700 - 899 | 8 : | 33,041 : | 17,518 : | 11,156 : | 5,958 : | 21,885 : | 11,560 |
| 900 or more | 21 : | 34,904 : | 27,981 : | 8,929 : | 8,294 : | 25,975 : | 19,687 |
| All sizes | 63 : | 26,430 : | 17,430 : | 6,326 : | 5,905 : | 20,104 : | 11,525 |

^{1/} Only 63 farmers reporting financial status in both 1931 and 1937.

The average amount of indebtedness also decreased between 1931 and 1937 but the decrease in indebtedness was relatively small and as a result the decrease in net worth was proportionately greater than that in assets. The relationship between the reduction in indebtedness and the number of crop acres operated is somewhat obscured by the fact that three of the five operators on farms with less than 300 crop acres were deriving a substantial portion of their income from some source other than their farms. Two were County AAA Committeemen and a third was a local postmaster. As a result, three of these five farmers, and all five farmers as an average, had been able to reduce their indebtedness. On the other sizes of farms, however, the proportion of operators who were able to reduce their indebtedness was proportionate to the acres of cropland operated. It ranged from 33 percent of the operators with 300 to 499 crop acres to 62 percent of the operators with 900 or more crop acres, and averaged 48 percent for all operators reporting. Another 48 percent had increased their indebtedness, while 4 percent reported no change. Only 2 out of all 96 farmers interviewed in 1937 reported any adjustment in their indebtedness.

The average net worth of these farmers decreased 43 percent between 1931 and 1937. The decrease was inversely proportionate to the crop acreage operated, ranging from 74 percent on farms with less than 300 crop acres to 24 percent on farms with 900 or more crop acres. Two out of 15 farmers with 300 to 499 crop acres and 9 out of 21 with 900 or more crop acres reported an increase in their net worth, but the other 52 farmers reported a decrease.

Much of the decrease in the value of assets and in the net worth of these operators was the result of a decline in real-estate prices. Excluding that portion of the loss, which was only a paper loss unless the operator was carrying a real-estate indebtedness based on 1931 real-estate prices, the average decrease between 1931 and 1937 in the value of assets was only 18 percent, and that in net worth was only 23 percent (table 26). These adjusted figures show a more striking relationship between the number of crop acres operated and the change in the operators' financial status than was shown by total losses. The decrease in net worth, exclusive of losses incurred by decreasing real-estate prices, averaged 69 percent on farms with less than 300 crop acres. It ranged downward to 28 percent on farms with 700 to 899 crop acres, while on farms with 900 or more crop acres, the average net worth had increased.

Table 26.- Financial status adjusted for decline in real-estate prices reported by 63 identical farmers in 1931 and 1937, and AAA payments received by those farmers, 1933-36, by number of crop acres operated, southwestern Kansas 1/ 2/

| | | Financial status 1931 | | | | | Financial status 1937: | | | | |
|-------------|-----------------------------|-----------------------|--------------|------------------------------------|------------------|---------------|------------------------|--------------|---------------|-----------|----------------------|
| Number | of crop acres operated 1937 | Num-ber of farms | Total assets | Loss due to decline in land prices | Ad-justed assets | In-debtedness | Ad-justed net worth | Total assets | In-debtedness | Net worth | AAA payments 1933-36 |
| | | | Dol-lars | Dol-lars | Dol-lars | Dol-lars | Dol-lars | Dol-lars | Dol-lars | Dol-lars | |
| Less than: | | | | | | | | | | | |
| 300 | 5 | | 18,196 | 2,560 | 15,636 | 3,247 | 12,389 | 7,042 | 3,221 | 3,821 | 848 |
| 300-499 | 15 | | 18,490 | 3,833 | 14,657 | 4,553 | 10,104 | 12,523 | 5,236 | 7,237 | 2,179 |
| 500-699 | 14 | | 21,387 | 5,502 | 15,885 | 2,659 | 13,226 | 10,519 | 3,912 | 6,607 | 2,713 |
| 700-899 | 8 | | 33,041 | 5,779 | 27,262 | 11,156 | 16,106 | 17,518 | 5,958 | 11,560 | 3,125 |
| 900 or more | 21 | | 34,904 | 6,443 | 28,461 | 8,929 | 19,532 | 27,981 | 8,294 | 19,687 | 6,157 |
| All sizes | 63 | | 26,430 | 5,220 | 21,210 | 6,326 | 14,884 | 17,430 | 5,905 | 11,525 | 3,638 |

1/ Reported 1931 land prices adjusted to the 1937 level on each farm.

2/ Only 63 farmers reporting financial status in both 1931 and 1937.

Source: AAA payments taken from AAA county files.

The effect of AAA payments on the farmers' ability to maintain or improve their financial status is illustrated by a comparison of the change in net worth on groups of farms receiving various amounts of payments. The average annual change between 1931 and 1937 in the net worth, adjusted for decreasing real estate prices, was inversely proportionate, and the percent of farmers reporting an increase in net worth was directly proportional, to the average annual AAA payments received from 1933 to 1936. The net worth decreased \$1,044 annually on farms with payments of less than \$500, but the decrease in net worth declined as the amount of payments increased. Operators with average annual payments of \$2,000 or more reported an increase in net worth which averaged \$3,644 annually (table 27).

As an average, payments of less than \$2,000 were not adequate to prevent some loss of capital but payments of \$2,000 or over were more than adequate from that standpoint. They were not only enabling the large-crop farmers to meet all operating expenses during a period when income from usual sources was low, but they were enabling them to expand their operations and to accumulate a substantial amount of capital.

Table 27.- Average annual AAA payments, 1933-36; annual change in net worth, 1931-37; and percent of farmers attaining an increase in net worth reported by 63 identical farmers, southwestern Kansas 1/ 2/

| Amount of annual AAA payments Dollars | : : : : : | : Number : of farms: : Number : | : : : : : | Annual AAA payments 1933-36 Dollars | : : : : : | Annual change: in net worth 1931-37 <u>1/</u> Dollars | : : : : : | Percent of farmers attain- ing increase in net worth <u>1/</u> Percent |
|---|-----------------------|---|-----------------------|---|-----------------------|---|-----------------------|--|
| Less than 500 | : | 13 | : | 282 | : | - 1,044 | : | 31 |
| 500 - 999 | : | 31 | : | 683 | : | - 601 | : | 16 |
| 1,000 - 1,499 | : | 12 | : | 1,195 | : | - 612 | : | 33 |
| 1,500 - 1,999 | : | 4 | : | 1,700 | : | - 396 | : | 50 |
| 2,000 or more | : | 3 | : | 3,766 | : | + 3,644 | : | 100 |
| All farms | : | 63 | : | 910 | : | - 480 | : | 29 |

1/ 1937 net worth compared with 1931 net worth adjusted to 1937 land values.

2/ Only 63 farmers reporting financial status in both 1931 and 1937.

Source: AAA payments taken from AAA county files.

In spite of the reduction in their assets, most of these farmers remained financially solvent. Only 5 of the 63 identical farmers reported liabilities in 1937 in excess of assets. Four of these 5 were land owners who had become involved by incurring real-estate indebtedness during a time of inflated real-estate prices. Their outstanding real-estate indebtedness exceeded the value of their real estate in 1937. The fifth farmer who was not solvent in 1937 was a young renter who had begun farming in 1931. He had not made a crop since 1931 but AAA payments and Government loans had enabled him to continue his operations. None of the 5 farmers with less than 300 crop acres was insolvent but, as was previously pointed out, 3 of the 5 had incomes from outside sources. Another had retired at one time and had resumed the operation of his "home quarter" only because his son-in-law had failed, while the fifth operator with less than 300 crop acres was operating the small ranch, discussed later in a case study.

Gross AAA payments received between 1933 and 1936, expressed as a percent of the operators' 1931 net worth adjusted to 1937 land values, were 7 percent on farms with less than 300 crop acres, 20 percent on farms with 300 to 899 crop acres, and 31 percent on farms with 900 or more crop acres. It is not possible to determine exactly what change in net worth would have occurred had these operators not received AAA payments, but it is probable that their indebtedness in 1937 or their loss of assets since 1931 would have been increased by approximately the amount of their payments. A deduction of these gross AAA payments from the operators' net worth in 1937 would leave 30 percent of the operators insolvent. On this basis, AAA payments kept at least 22 percent of the farmers from becoming insolvent, 15 percent of those with less than 500 crop acres as compared with 29 percent of those with 500 to 699, and 24 percent of those with 700 or more crop acres.

A further contribution of the AAA payments toward the maintenance of these operators' financial status was their effect in preventing a more drastic decline in real-estate prices. By providing working capital the AAA payments made possible the continued demand for land, and consequently prevented a more drastic decline in its price. Such a contribution could not be measured quantitatively but it seems safe to assume that this contribution was also greatest on the large farms where the acreage of owned land was largest.

Condition of Equipment.

Much has already been implied in the preceding discussion as to the condition of machinery. The average value per tractor, per combine, and per truck, had declined 32, 61, and 46 percent between 1931 and 1937 (table 20), indicating an abnormally high rate of depreciation and a lack of repairs. Because of an increase in the number of these power machines, their total value per farm declined only 16 percent, or from \$1,523 to \$1,278, but the value per farm of all machinery had declined from \$3,800 to \$2,425 (table 24). Deducting the per farm value of the power machinery and making some allowance for the value of the newer types of deep-tillage implements acquired in recent years, other tillage-and-planting machinery on these farms had decreased over 50 percent in value between 1931 and 1937 and it is apparent that they were badly in need of repairs and replacements by 1937.

The marked decrease in the price of land and buildings, previously cited, might indicate that buildings had deteriorated considerably since 1931. No attempt was made to measure the condition of buildings in 1931 but a qualitative measure of the condition of buildings in 1937 indicates that they were in a much better state of repair than was machinery. The condition of dwellings was classed as good on 63 percent of the farms, fair on 27 percent, and poor on only 10 percent of the farms studied (table 28). The condition of other buildings was classed as good on 40 percent, fair on 42 percent, and poor on 18 percent of the farms studied and it seems obvious that the condition of buildings had little or no effect on the decrease in land prices between 1931 and 1937.

Table 28.- Percentage of farms with farm buildings in good, fair, and poor state of repair, southwestern Kansas, 1937

| Number of crop acres operated | :Number : | Dwellings | | | Other buildings | | |
|-------------------------------------|-----------|-----------|----------|----------|-----------------|----------|----------|
| | : of : | : | : | : | : | : | : |
| | :farms : | Good : | Fair : | Poor : | Good : | Fair : | Poor : |
| | :studied: | : | : | : | : | : | : |
| | :Number : | Percent: | Percent: | Percent: | Percent: | Percent: | Percent: |
| Less than 300 acres: | : 10 : | 60 : | 40 : | -- : | 20 : | 70 : | 10 : |
| 300 - 499 acres | : 24 : | 42 : | 42 : | 16 : | 21 : | 46 : | 33 : |
| 500 - 699 acres | : 23 : | 65 : | 22 : | 13 : | 35 : | 43 : | 22 : |
| 700 - 899 acres | : 14 : | 71 : | 29 : | -- : | 50 : | 43 : | 7 : |
| 900 or more acres | : 24 : | 79 : | 13 : | 8 : | 67 : | 25 : | 8 : |
| All sizes | : 95 : | 63 : | 27 : | 10 : | 40 : | 42 : | 18 : |

Nor did a diminution in the productivity of land have any marked bearing on the decrease of land prices. Wind erosion was a serious problem on many of these farms but the productivity of few, if any, farms had been permanently impaired. Machinery was apparently the only part of the physical plant which had depreciated an appreciable amount as a result of abnormally low incomes.

Methods of Survival.

In the place of income from customary sources, these wheat farmers have been living and operating their farms largely on income provided by AAA payments. To continue operations, however, some consumption of capital goods was necessary on all but the group of farms with the largest acreage of cropland, and the depletion of machinery represents only one of the forms of the consumption of capital goods. The 20 percent decline in the adjusted net worth cited in the preceding section is a rough measure of the average amount of capital goods consumed by these wheat farmers between 1931 and 1937. In addition to the lack of repairs and replacements of machinery, it reflects a decrease in the acreage of owned real estate, a decrease in feed and supply inventories, and a reduction in livestock herds.

With the aid of large AAA payments large-crop farmers have been able to maintain and even increase their capital during a period of crop failures and general depression, but many of those operating the smallest crop acreage have been forced to obtain income from outside sources to continue the operation of their farms. They have consumed about two-thirds of the capital goods in their possession in 1931, and it is evident that they cannot continue to survive unless their farm income or their income from outside sources is increased.

CASE FARMS BY TYPE AND WITH DIFFERENT SITUATIONS

A discussion of the changes in the organization of farms and the influence of the AAA programs in effecting those changes should be facilitated by a discussion of changes in the organization of individual farms affected by different situations and individual farms upon which enterprises, other than wheat, have been developed. Most farmers operating in the area were primarily cash-grain farmers. As a group, they had increased the size of their farms, increased their cropland, decreased their pasture, reduced their acreage of wheat, increased that of summer fallow, and reduced their numbers of livestock.

But adjustments may have been in other directions on farms with other enterprises, or even on cash-grain farms when conditioned by different situations. A strictly cash-grain farmer with limited income from his usual sources may have increased the size of his farm and the amount of his cropland in order that he might receive a larger AAA check. A farmer with an important cattle enterprise may have decreased his wheat acreage and increased that in feed crops, or he may have increased his wheat acreage to provide wheat pasture for his cattle. Other farmers with other enterprises may have made different adjustments peculiar to those particular enterprises.

Three cash-grain farms, each with a different situation, and five farms, each with a different enterprise supplementing wheat, have been selected from the farms studied to illustrate the changes made in the farm organization and in the financial status of farm operators as a result of different situations and different enterprises. The latter farms were selected on the basis of minor enterprises developed by 1931 in order that the effect of the AAA programs on those enterprises, as well as the effect of the enterprises on the general organization of the farms, might be shown.

All of the changes on those farms cannot be attributed to the addition of minor enterprises. Different conditions prevailed on each of the eight farms selected for case study, and many of the changes made between 1931 and 1937 may have been because of those conditions and not because of the additional enterprises. Detailed information as to what happened on these farms during the intervening period between 1931 and 1937 would be helpful in determining the causes of the changes but such information is not available. Changes on each of these farms should therefore be considered carefully in light of prevailing conditions.

Except for the inclusion of minor enterprises and the resultant effects on their organization, the eight farms selected for case study were fairly representative of all farms studied. Ranging in size from 560 to 1,640 acres, their average size in 1937 was 1,017 acres as compared with 1,011 acres for all farms studied (table 7). Cropland on the case farms averaged 708 acres as compared with 760 acres on all farms, while

pasture land averaged 289 acres as compared with 222 acres. Differences in land use on farms with a minor enterprise are somewhat obscured by the inclusion in the eight case farms of the three wheat farms without minor enterprises of significant proportions. The five case farms with livestock enterprises averaged 1,015 acres with only 555 acres of cropland and 412 acres of pasture. Capitalization and indebtedness varied considerably on these case farms, but, for the group, they were not materially different than on all farms studied.

A Wheat Farm with a Crop in 1937

Less than one-fifth of the 96 farms studied produced more than 2,000 bushels of wheat in 1937, but the changes made in the financial status of the operator and in the organization of a tenant-operated wheat farm located in the central part of the area should be indicative of changes made in the area on those cash-grain farms which did produce at least one crop in recent years. Crops produced by the operator of this farm in 1937, including 3,146 bushels of wheat, were valued at \$4,866.

This farm of 800 acres, was somewhat smaller than the average size of all farms studied in 1931, but a higher-than-average percent of the farm land was in crops, the acreage of cropland was above average, and a higher-than-average percent of the cropland was in wheat (table 29). In spite of the development of minor enterprises, the operator was primarily dependent on wheat for income.

Table 29.- Use of land on a tenant-operated wheat farm, southwestern Kansas, 1931 and 1937

| Year | Wheat | Corn | Sorghums | Sudan | Summer fallow | Total crop-land | Native pasture | Farmstead and waste | Total operated |
|------|---------|---------|----------|---------|---------------|-----------------|----------------|---------------------|----------------|
| | : Acres | : Acres | : Acres | : Acres | : Acres | : Acres | : Acres | : Acres | : Acres |
| 1931 | : 600 | : 120 | : - | : 10 | : - | : 730 | : 66 | : 4 | : 800 |
| 1937 | : 437 | : - | : 402 | : 27 | : 215 | : 1,081 | : 40 | : 16 | : 1,137 |

Livestock on the farm on January 1, 1931 consisted of 18 head of cattle, including 6 cows, 5 heifers, and 7 calves; 8 hogs; 3 horses; and 9 chickens. Equipment was adjusted to one operating unit, a 20 h.p. tractor and complementary machinery. Tillage equipment consisted of one 10-foot one-way, one tractor plow, one 3-row lister, and one 5-row sled cultivator. The operator seeded with a 16-foot drill and harvested with a 15-foot combine. He owned a $1\frac{1}{2}$ ton truck.

All wheat for the 1931 crop was seeded on ground that had been in wheat in 1930. It was prepared with the one-way, having been one-wayed twice and then drilled. The yield was 18 bushels per acre seeded. The corn was planted on ground that had been in corn in 1930. It was blank listed, listed and planted, harrowed one time and cultivated twice. The yield was 7.5 bushels per acre.

Because of the heavy investment in a comparatively new tractor, the value of machinery was high. It was inventoried at \$4,940 on January 1, 1931 while the value of all of the operator's farm property was \$5,983 (table 30). Excluding personal property and other assets, the operator's net worth was \$2,753.

Table 30. - Assets, indebtedness, and net worth of a wheat farm tenant-operator, southwestern Kansas, January 1, 1931 and October 1, 1937

| | | Assets | | | | | |
|-------|-----|---------|-----------------|------------|------------|----------|-------------------|
| | | Land | Working Capital | | Total | Debts | Net |
| Year | and | | Food | | assets | | worth |
| | | build- | Machinery: | Livestock: | and | | |
| | | ings | | supplies | | | |
| 1931: | - | \$4,940 | \$ 895 | \$ 148 | \$5,983:1/ | \$6,129: | \$3,376 : \$2,753 |
| 1937: | - | 3,040 | 580 | 1,025 | 4,645:2/ | 6,065: | 3,722 : 2,343 |

1/ Includes \$146 in accounts receivable

2/ Includes \$1,420 in accounts receivable

Cash income in 1931 was \$3,154 but the farm business for the year had shown a net loss of \$272 without any allowance for wages for the operator and interest on his equity in the farm business (table 31).

Table 31.- Farm income by sources on a tenant-operated wheat farm in southwestern Kansas, 1931 and 1937

| | | Income | | | | Change | | |
|-------|---------|---------|---------|-----------|---------|---------|---------|---------|
| | | | | Products: | | in | Cash | Net |
| Year: | Crops | Live- | Other | Total | used in | Gross | inven- | ex- |
| | | stock | | cash | home | income | tory | penses |
| | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars |
| 1931: | 2,073 | 526 | 555 | 3,154 | 256 | 3,410 | -1,915 | 1,767 |
| | | | | | | | | |
| 1937: | 1,655 | 1,208 | 391 | 3,254 | 92 | 3,346 | + 493 | 2,326 |
| | | | | | | | | |

By 1937, this operator had increased the size of his farm to 1,137 acres, all of which was rented. The wheat acreage had been reduced and the fallow acreage increased. The production of corn had been abandoned, but 402 acres were planted to sorghums and 27 acres to sudan. Numbers of cattle

had been reduced by October 1, 1937, to eight cows and seven calves, while all other livestock had been liquidated.

The tractor plow and lister had been sold. A 3-row lister with basin attachment was purchased in 1937 and the old truck was traded in on a new one. With these exceptions, the equipment on the farm was the same in 1937 as it was in 1931. The tractor used in 1937 was the same as that used in 1931. The combine used in 1931 was still on the farm, but it was not used in 1937. A borrowed field-cultivator was used.

Over one-half of the ground seeded to wheat for the 1937 crop was summer-fallowed in 1936. It was worked with the one-way and the field-cultivator. The balance of the wheat acreage (205 acres) was seeded on wheat ground. Sixty acres were listed, busted, and drilled; 60 acres were listed, busted, cultivated twice, and drilled; and 85 acres were listed twice, busted and drilled. Due to a local rain during a critical period, all of the wheat made a crop and was harvested. The yield per seeded acre was 10 bushels on the summer-fallow land, and 4 bushels on the wheat land, the average yield of all wheat being 7.2 bushels. The harvesting was contracted.

The sorghums were planted on ground that had been in row crops the preceding year. Ninety-five acres planted to maize were cultivated and the land then listed with the basin attachment. The balance of the sorghums were blank-listed, listed and planted, and cultivated once. The basin attachment was used on the lister both times over. Fifteen acres of maize were abandoned. Production on 165 acres was estimated at one-fourth ton of forage and 3.6 bushels of grain per acre, while that on 120 acres of kafir, 20 acres of hogari, and 82 acres of cane was estimated at one-half ton of forage per acre.

The value of the operator's farm property had declined to \$4,645 on October 1, 1937. His net worth had declined slightly while his indebtedness had increased.

The high prices of 1937, together with the crop production made possible by the local rains which this operator received on his farm, enabled him to exceed the cash income he had received in 1931. Excluding Government payments, the total cash income received in 1937 was \$3,254. Excluding wages for the operator and interest on his equity, the farm had shown a net income of \$1,513 in 1937.

Agricultural Conservation Program payments to be received by this operator in 1937 were calculated at \$944, and Wind-Erosion payments at \$476. If these payments are included as farm income, the farm showed a net income (excluding operator's wages and interest on his equity) of \$2,933. If, as on most wheat farms in the area, rains had not fallen at a critical period and crop production had been negligible, the farm would have shown a loss in 1937 even with the AAA payments included.

This particular operator had received \$4,142 in AAA payments from 1933-36 and his 1937 payments were estimated at \$1,420, yet his net worth had declined \$410 between 1931 and 1937 as a result of the failure or near failure of his wheat crops from 1933-36. His net worth would show an annual decrease of \$853 between 1931 and 1937 if all of his AAA payments were deducted from his assets or added to his indebtedness in 1937. He had incurred feed and seed loans in each of the four years from 1933 to 1936 and still had an outstanding indebtedness from that source of \$1,370. He owed in 1937 on a tractor purchased in 1930, twice the amount he considered its current value. His combine had depreciated to a point where he deemed it desirable to hire his harvesting done in 1937. His livestock numbers were depleted. His expenses had increased. AAA payments averaging approximately \$1,100 a year had no doubt enabled this wheat farmer to continue his operations. But he was not able to maintain either his equipment or his working capital. He had become more dependent on crop production, and in lieu of crop production, on Government payments for his income.

A Wheat Farm with No Wheat Crop in 1937

In contrast to the farm just cited, changes in the farm organization and financial status of a tenant-operator located in the western part of the area should be indicative of changes on wheat farms producing little or no wheat in recent years. Wheat was a complete failure on this farm in 1937. While only 17 percent of the 96 farms studied had a complete failure of wheat in 1937, 54 percent produced less than 500 bushels and 68 percent produced less than 1,000 bushels. Wheat was also a complete failure on this farm in 1936 and only 1,000 bushels were produced in 1935. The resultant effect on the operator's financial status is typical of that of many other cash-grain farmers in the area whose crop production in recent years has been similarly limited.

Somewhat larger than the average size of all farms studied, this farm comprised 1,320 rented acres in 1931, most of which was seeded to wheat (table 32). Livestock on the farm consisted of two milk cows and 135 chickens. Equipment was adjusted to two operating units. It consisted of two tractors, two one-way plows, two grain drills, two combines, one of which was purchased during the year 1931, one lister, and one weeder. The wheat yield in 1931 was 20 bushels per seeded acre and the milo yield, 10 bushels.

Table 32. - Use of land on a tenant-operated wheat farm with no wheat production in 1937, southwestern Kansas, 1931 and 1937

| | | | Sorghums | Sudan | | | | | Farm-- | |
|-------|-------|-------|-----------|-----------|--------|-------|--------|-------|--------|-------|
| | | | on | on | Summer | Total | Native | stead | Total | |
| Year: | Wheat | Milo | abandoned | abandoned | fallow | crop- | pas- | and | oper- | |
| | | | wheat | wheat | | land | ture | waste | ated | |
| | Acres | Acres | Acres | Acres | Acres | Acres | Acres | Acres | Acres | Acres |
| 1931: | 1,200 | 110 | - | - | - | 1,310 | - | 10 | 1,320 | |
| 1937: | 310 | - | 310 | 20 | 161 | 971 | 144 | 31 | 1,146 | |

The investment in machinery on this farm was high. Its value on January 1, 1931 was estimated at \$4,790, or 96 percent of the value of all of the operator's farm property (table 33). An indebtedness of \$3,596, most of which was borrowed on the machinery, left the operator a net worth of only \$1,395.

Table 33.- Assets, indebtedness, and net worth of a wheat farm tenant-operator with no wheat production in 1937, southwestern Kansas, January 1, 1931 and October 1, 1937

| | | Assets | | | | | | |
|------|---|-----------------|-------------------------|-----------|-------------------|--------------|---------|-----------|
| | | Working Capital | | | | | | |
| Year | | Land | Machinery and buildings | Livestock | Feed and supplies | Total assets | Debts | Net worth |
| | | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars |
| 1931 | - | 4,790 | 201 | - | 4,991 | 4,991 | 3,596 | 1,395 |
| 1937 | - | 1,290 | 350 | 1,090 | 2,730 | 13,707 | 1,153 | 2,554 |

1/ Includes \$977 in accounts receivable.

Cash receipts in 1931 totaled \$6,020, or \$1612 in excess of cash expenses (table 34). Adjusted for the value of products used in the home, for an increase of \$1,724 in total inventory values, and for \$4,408 in cash expenses, the net farm income in 1931 was \$3,571, yet the operator increased his indebtedness during that year by \$1,532.

Table 34. - Farm income by sources on a tenant-operated wheat farm with no wheat production in 1931, southwestern Kansas, 1931 and 1937

| | | Income | | | | Change: | | | |
|------|-----|---------|------------|---------|------------|-----------------------|-------------------|----------------|-----------------|
| Year | | Crops | Live-stock | Other | Total cash | Products used in home | Gross in-ven-tory | Cash ex-penses | Net farm income |
| | | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars |
| 1931 | 1/4 | 4,813 | 126 | 1,081 | 6,020 | 235 | 6,255 | +1,724 | 4,408 |
| 1937 | - | 147 | 318 | 465 | 57 | 522 | +1,808 | 1,810 | 520 |

1/ All wheat.

A continued failure of wheat, a lack of other sources of income, and a high machinery indebtedness eventually brought disaster to this operator. By the latter part of 1936 his machinery indebtedness had increased to such a point that foreclosure proceedings were instigated and he lost nearly all of his farm machinery. Stripped of his equipment, he was displaced from the farm he had been operating. AAA payments enabled him to continue as a farm operator, but he was forced to move to a sandy, less productive farm; to purchase on credit a minimum amount of depleted machinery; and to do custom work in 1937 to help finance his own farm operations.

This operator was farming 1,146 acres in 1937, 971 acres of cropland, 144 acres of native pasture, and 31 acres of waste land. To obtain a maximum AAA payment, he fallowed 161 acres of sandy land and seeded the remaining 810 acres of cropland to wheat. The wheat was a complete failure, but 310 acres of sorghums and 20 acres of sudan were planted on abandoned wheat land and nearly 50 tons of forage and 2,000 bushels of grain were produced. The operator was milking three cows, but he had no other livestock. His machinery consisted of a 1927 tractor, a 1928 combine, an "old" lister, one-way, and spring-tooth cultivator, three "old" grain drills, and a duckfoot cultivator purchased in 1937.

Cash income on this farm in 1937, exclusive of AAA payments, was only \$465, and over two-thirds of that was derived from custom work. Cash expenses totaled \$1,310, but the operator contracted \$663 indebtedness during the year and he received \$1,532 in 1936 AAA payments, so he had about \$850 for living expenses. Exclusive of AAA payments, his net farm income in 1937 was \$520 most of which he derived from an increase in his feed inventories and from custom work. The value of this operator's farm property had decreased to \$2,730 on October 1, 1937, but because of the adjustment in indebtedness through foreclosure, his indebtedness had decreased to \$1,153 and his net worth had increased to \$2,554. However, his net worth would show an annual decrease of \$991 between 1931 and 1937 if all of his AAA payments received during that period were deducted from his assets or added to his indebtedness in 1937.

Through the adjustment in his indebtedness and his exceptional success in the production of sorghums on abandoned wheat land this operator was one of 13 out of 21 operators with 900 or more crop acres who reduced their indebtedness, and one of 2 out of 4 operators receiving annual AAA payments of \$1,500 to \$1,999 who increased their net worth between 1931 and 1937. However, an adjustment in indebtedness was an exception rather than the rule, and because of the reduction in the size of his farm, this operator's AAA payments had been reduced. He received an average annual AAA payment of \$1,780 between 1933 and 1936, but he anticipated a payment of only \$977 in 1937. Without these large payments, this operator would undoubtedly have been forced out of farming. With them, he was able to continue operations even though he produced little or no wheat, but his farming has become even more speculative than before. He is now seeding wheat on sandy land, much of which, in the interest of conservation, should be removed from crop production. The production of a crop would force him to buy an almost complete set of new machinery and again increase his indebtedness, while a continued failure of crops will force him out of business in spite of AAA, and other Government payments.

A Wheat Farm with Heavy Land Charges

Changes in the financial status of an owner-operator, located in the central part of the area, are indicative of the financial difficulties encountered by strictly cash-grain operators who, with limited financial reserves and with little or no income from their land, have had to bear the charge incidental to land ownership and real-estate indebtedness.

Whereas the two cash-grain operators cited in the preceding discussion had little or no land charge to bear each year because they were tenants operating on a share-rent basis and their crop production was limited, this operator had real-estate taxes and interest payments on real-estate indebtedness to meet each year regardless of whether or not his land produced any return.

This operator's farm comprised 800 owned acres in 1931 (table 35). With the exception of 120 acres of summer fallow, all of the cropland was seeded to wheat and the operator was almost entirely dependent on wheat for farm income. All of the wheat was seeded on land that had been in wheat the preceding year. It was one-wayed twice and then drilled. The yield in 1931 was 24 bushels per acre seeded. Livestock on the farm was limited to one milk cow and 80 chickens.

Table 35. - Use of land on an owner-operated wheat farm, southwestern Kansas, 1931 and 1937

| Year | Wheat | Summer fallow | Total cropland | Native pasture | Farmstead and waste | Total operated |
|------|-------|---------------|----------------|----------------|---------------------|----------------|
| | Acres | Acres | Acres | Acres | Acres | Acres |
| 1931 | 600 | 120 | 720 | 70 | 10 | 800 |
| 1937 | 735 | - | 735 | 40 | 25 | 800 |

The operator valued his real estate at \$35 per acre in 1931. His estimate of the value of his machinery on January 1, 1931 was \$3,085, or less than 10 percent of all farm property (table 36). His net worth was \$21,228 but he was carrying an indebtedness of \$11,000.

Table 36.- Assets, indebtedness and net worth of a wheat farmer carrying land charges, southwestern Kansas, January 1, 1931 and October 1, 1937

| Assets | | | | | | | | |
|--------|-----------------|-----------------|-------------|--------------|--------------|-------------|-----------|---------|
| Year | Land | Working capital | Feed | Total | Total | Debts | Net worth | |
| | and build- ings | Ma- chinery | Live- stock | and supplies | Total assets | Total debts | | |
| | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars |
| 1931 | 28,000 | 3,085 | 138 | 1,005 | 4,228 | 32,228 | 11,000 | 21,228 |
| 1937 | 23,820 | 1,535 | 126 | - | 1,711 1/2 | 26,342 | 16,832 | 9,460 |

1/ Includes \$811 in accounts receivable.

Cash receipts in 1931 totaled \$5,877 or \$2,798 in excess of cash expenses, but apparently a substantial portion of the receipts represented a liquidation of inventories (table 37). Adjusted for the value of products used in the home and for inventory losses, the net farm income in 1931 was \$629.

Table 37. - Farm income by sources on an owner-operated wheat farm in southwestern Kansas, 1931 and 1937

| Year | Income | | | | | Pro- ducts used in home | Gross income inven- tory | Change in ex- penses | Cash ex- farm income | Net farm income |
|------|-----------|----------------|-----------|-----------|-----------|----------------------------------|-----------------------------------|-------------------------------|-------------------------------|-----------------------|
| | Crop | Live- stock | Other | Total | cash | | | | | |
| | : Dollars | : Dollars | : Dollars | : Dollars | : Dollars | : Dollars | : Dollars | : Dollars | : Dollars | : Dollars |
| 1931 | : 3,652 | : 130 | : 2,095 | : 5,877 | : 233 | : 6,110 | : -2,402 | : 3,079 | : 629 | |
| 1937 | : 122 | : 55 | : 90 | : 267 | : 118 | : 385 | : -407 | : 1,650 | : -1,672 | |

This operator had not changed either the size or the organization of his farm by 1937. He was still operating the 800 acres of owned land, and wheat remained the primary source of his farm income. However, he had abandoned the practice of summer fallow and was seeding all of his cropland to wheat with the understanding that sufficient acreage would be plowed under to qualify for the AAA programs. The one-way was still being used to prepare most of the seedbed, although 200 acres were tilled once with a field-cultivator. The yield of wheat in 1937 was 0.5 bushel per seeded acre or 2.0 bushels per harvested acre. Livestock on the farm consisted of one milk cow, 50 chickens, and 2 pigs purchased during the year for home consumption.

The continuous drain on his resources by living expenses, land charges and other operating expenses during a series of poor crop years when little or no income was derived from wheat brought an inevitable increase in the indebtedness and a decrease in the net worth of this operator. His total assets declined \$5,886 between 1931 and 1937 and while \$4,180 of this was because of a decline in the estimated value of his real estate, his indebtedness had increased \$5,882 and his net worth had declined \$11,768. Eliminating that portion of his loss resulting from decreased land values, his net worth had declined \$1,084 annually as compared with an average annual increase of \$53 made by the two tenant-operators in the preceding case studies.

This owner-operator had received \$5,127 in AAA payments from 1933 to 1936, and his payments for 1937 were estimated at \$311. A decrease in his 1937 assets or an increase in his indebtedness by the amount of these AAA payments would leave him an annual loss in his net worth of \$1,932 as compared with an average annual loss of only \$922 in the two tenant-operators' net worth. However, in the form of real-estate taxes and

interest on real-estate indebtedness this owner-operator was carrying land charges in 1937 of approximately \$1.00 per acre. The value of the crop rent paid by the two tenant-operators from 1931 through 1937 averaged only 33 cents per acre annually, and, had their land charge been comparable to that of the owner-operator, their annual loss in net worth without any AAA payments would have averaged \$1,687.

The effect of AAA payments on cash-grain operators' ability to continue their operations during a period of short crops is illustrated by the receipts and expenses of this owner-operator in 1937. Exclusive of AAA payments, cash receipts in 1937 totaled only \$267 whereas cash expenses totaled \$1,650. AAA payments received in 1937 for the 1936 program totaled \$1,243. The \$140 deficit, together with \$650 for living expenses during the year, was acquired by borrowing \$790. While this increase in indebtedness was necessary, it is apparent that AAA payments were covering the major portion of the operating expenses. It is equally apparent, however, that AAA payments have not been sufficient to cover all operating and living expenses of cash-grain operators who have had to bear comparatively high land charges. This operator's machinery was depleted and he had increased his indebtedness \$840 annually between 1931 and 1937.

A Wheat Farm With a Beef-Cow Enterprise

Less than one-fifth of the farms studied in 1931 had a beef-cow enterprise comprising ten or more cows, but changes in the organization of those farms are significant. A farm located in the south central part of the area was selected to indicate changes in the organization of farms on which beef cows formed an important enterprise. Hogs and poultry were also important enterprises on this farm, all livestock enterprises having contributed 51 percent of the gross receipts in 1931.

This farm consisted of 1,280 acres in 1931, 720 acres of which were owned and 560 acres rented (table 38).

Table 38.- Use of land on a wheat farm with a beef-cow enterprise, southwestern Kansas, 1931 and 1937

| | : | : | : | : | : | Sum-: | : | : | Farm-: | : |
|------|----------|--------|------------|-----------|---------|-----------|-----------|--------|-----------|---|
| Year | :Wheat | :Other | :Sorghums: | :Annual: | mer | :Total | :Native | :stead | :Total | |
| | :grains: | | | :pasture: | low | :crop- | :pasture: | :and | :operated | |
| | :Acres | :Acres | :Acres | :Acres | :Acres: | Acres | :Acres | :Acres | :Acres | |
| 1931 | : 430 | : 15 | : 100 | : 5 | : 210 | : 760 | : 480 | : 40 | : 1,280 | |
| 1937 | : 401 | : 15 | : 107 | : 75 | : 157 | : 760 1/2 | : 400 | : 40 | : 1,200 | |

1/Includes 5 acres of idle land.

Livestock on the farm on January 1, 1931 consisted of 36 head of cattle, 47 hogs, 206 chickens and 14 horses. The cattle were 20 Shorthorn cows, one 2-year-old heifer, 14 calves and one bull.

The equipment used for the livestock was inventoried at \$235, while the buildings for livestock, all of which were on the owned land, were valued at \$1,550. The value of all of the operator's farm property on January 1, 1931 was \$39,204 and the operator's net worth was \$29,164 (table 39).

Table 39.- Assets, indebtedness, and net worth of a wheat farmer with a beef-cow enterprise, southwestern Kansas, January 1, 1931 and October 1, 1937

| Year | Assets | | | | | | Total assets | Debts | Net worth |
|-------|---------|-----------|-----------|-----------|-------------------|-----------------|--------------|---------|-----------|
| | Land | Buildings | Machinery | Livestock | Feed and supplies | Working Capital | | | |
| | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars |
| 1931: | 32,000 | 3,809 | 2,885 | 510 | 7,204 | 1/40,264 | 11,100 | 29,164 | |
| 1937: | 14,400 | 1,480 | 1,185 | 430 | 3,095 | 2/18,051 | 11,350 | 6,701 | |

1/ Includes \$1,060 in accounts receivable.

2/ Includes an estimated \$556 in accounts receivable.

Cash income on the farm in 1931 was \$3,392 (table 40). Adjusting for the value of products used in the home and for inventory losses and cash expenses, \$1,844 was received as returns for the investment and the labor of the operator and his family.

Table 40.- Farm income by sources on a wheat farm with a beef-cow enterprise, southwestern Kansas, 1931 and 1937

| Year | Income | | | | | | Change in inventory | Cash expenses | Net farm income |
|-------|---------|-----------|---------|---------|-----------------------|---------|---------------------|---------------|-----------------|
| | Crops | Livestock | Other | Total | Products used in home | Gross | | | |
| | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars |
| 1931: | 1/1,487 | 1,721 | 184 | 3,392 | 340 | 3,732 | -278 | 1,610 | 1,844 |
| 1937: | 2/710 | 2,053 | - | 2,763 | 100 | 2,863 | -845 | 2,629 | - 611 |

1/ Includes \$1,462 from wheat

2/ Includes \$100 from wheat

Although it did not contribute a major portion of the cash income in 1931, the cattle herd was a significant enterprise on this farm. No cash sales were made, but \$72 worth of beef was consumed by the farm family. The number of cattle increased in 1931 from 36 to 55 head, and the total value increased \$165. If there had been no price decline during the year, the increase would have been about \$375 more than this. Although kept primarily for the production of calves, some of the cows were milked. The sale of dairy products amounted to \$161 while the products used in the home were valued at \$174.

Except for the giving up of 80 acres of rented pasture, the farm in 1937 was the same as in 1931. Twelve hundred acres were operated, of which 720 acres were owned and 480 acres were rented. The acreage in wheat and that in summer fallow had declined. Seventy-five of the 82 acres taken out of these two uses were seeded to annual pastures to replace the 80 acres of rented pasture land that had been dropped, and to offset the depleted condition of the owned native pasture. Two hundred acres of wheat and 57 acres of sorghums were abandoned. The yield of the wheat harvested in 1937 was only 3.5 bushels an acre. Eight acres of milo made 2.5 bushels an acre, and six acres of feterita made only 1.7 bushels an acre. The total yield of roughage was only six tons on 36 acres of kafir, and six tons on 15 acres of barley. All of the wheat was grazed by 14 head of cattle for a period of about 90 days.

By October 1, 1937, the number of livestock on the farm had decreased to 14 head of cattle, 25 hogs, 275 chickens and 8 horses. The numbers of the various classes of cattle were 6 cows, 2 yearling heifers, 3 calves and one bull. The operator had shifted the emphasis of his cattle production to that of dairy products. He had been producing and selling colts, and he contemplated producing purebred brood sows for sale.

A failure or near failure of his wheat crop from 1933 through 1937 limited this operator's ability to maintain either his net worth or the value of his capital goods. The inventory value of equipment for the livestock had declined to \$155, while the estimated value of the buildings chargeable to livestock had declined to \$950. The value of all of the operator's farm property on October 1, 1937 was only \$17,495, and his net worth \$6,701. His net worth had declined \$22,463, but \$17,600 of this represented a loss resulting from the decline in the value of real estate. He had increased his outstanding indebtedness only \$250. Estimates of this operator's crop production on rented land indicate that the annual land charge he had carried on rented land from 1931 to 1937 averaged about 60 cents per acre less than his 1937 land charge carried on owned land in the form of real-estate taxes and interest on real-estate indebtedness. If this additional charge of 60 cents per rented acre had been carried each year, i.e., if his entire operations had been on an owner-operated basis similar to that of the cash-grain owner-operator cited in the preceding case study, his change in net worth from 1931 to 1937, exclusive of any benefit from AAA payments and any losses from a decline in real-estate prices, would be an annual loss of \$1,380, as compared with the annual loss of

\$1,932 suffered by the cash-grain owner-operator.

Excluding AAA payments, the cash income on this farm in 1937 totaled \$2,763, or only \$134 more than cash expenses. However, the operator received in 1937, \$336 in 1936 AAA payments so he had \$970 for living expenses. The cattle enterprise returned a net income of \$425 but the farm business lacked \$611 of meeting all operating expenses, depreciation charges, and inventory losses. The amount of AAA payments to be received by the operator in 1937 was not readily available, but if it were the average amount received annually between 1933 and 1936 (\$556), the farm would show a net loss of only \$55 for the year.

Changes in the organization of this farm are characteristic of changes on other farms with a beef-cow enterprise. Of the 12 operators, who were interviewed in both 1931 and 1937 and who reported 10 or more stock cows in 1931, 10 had reduced the number of their stock cows and 8 had completely liquidated their stock-cow enterprise. Eight of the 12 operators had increased the number of their milk cows; and, while in some instances these cows may have been the same type as those reported as stock cows in 1931 and merely represent an increased emphasis on the production of dairy products, these operators apparently were not able to maintain their stock-cow enterprises through the period of short feed supplies from 1931 to 1937. As an average, stock cows were reduced 48 percent and numbers of all cattle, 36 percent. The acreage of pasture on these farms was reduced 34 percent, or approximately the same amount as was the number of all cattle. Crop acreage was maintained at about the 1931 level, and, apparently at the expense of their livestock enterprises, these operators were attempting to maintain their crop enterprises which would yield them the largest income in the form of AAA payments.

Financial statements were obtained from 11 of these 12 operators. All 11 reported a decrease in net worth between 1931 and 1937, the average decrease being greater than the average of all farmers interviewed. However, AAA payments on these farms were considerably smaller than were those on cash-grain farms. With more than one-half of their land in pasture in 1931, these 11 operators' annual AAA payments between 1933 and 1936 averaged only \$649 as compared with \$852 on all farms studied, and \$1,519 on the group of farms most nearly comparable in total acres operated. Had the AAA payments on these beef farms been comparable with those on cash-grain farms financial losses on the beef farms would have been smaller than on the cash-grain farms.

A Wheat Farm With a Dairy Enterprise

Of the farmers interviewed in 1931, 38 percent had more than 5 milk cows and 15 percent had 10 or more. A farm located in the eastern part of the area was selected to illustrate the changes in the farm organization and financial status of those operators in the area having an important dairy enterprise. This farm was located near a special market. Milk and cream were delivered daily to a milk route station, and a significant part of the income was derived from the sale of these dairy products.

The farm in 1931 consisted of 560 acres (table 41). The operator owned 240 acres and rented an additional 320 acres for wheat. The yield of feed crops was light, although wheat averaged 17.5 bushels an acre. Cattle on the farm on January 1, 1931 consisted of 16 milk cows, 3 stock cows, three 2-year-old heifers, 9 yearling heifers, 15 calves, 4 steers, and 1 bull, a total of 51 head. The cattle were, for the most part, good grade Guernseys.

Special buildings and equipment not needed on a wheat farm without a dairy enterprise consisted of a barn and shed valued at \$1,200; a pit silo valued at \$100; an old ensilage cutter, mower, and corn binder valued at \$30; and a milking machine and cream separator with a combined value of \$310. The value of all of the operator's farm property on January 1, 1931, was \$16,683, and his net worth, exclusive of personal property, was \$11,913 (table 42).

Table 41.- Use of land on a wheat farm with a dairy enterprise, southwestern Kansas, 1931 and 1937

| Year | Wheat | Sorghums | Sudan | Fallow | crop- land | Total :Native :pasture :waste | Farm- stead and waste | Total oper- ated |
|------|-------|----------|-------|--------|---------------|--|--------------------------------|------------------------|
| | Acres | Acres | Acres | Acres | Acres | Acres | Acres | Acres |
| 1931 | 370 | 65 | 35 | - | 1/ 476 | 74 | 10 | 560 |
| 1937 | 464 | 93 | 15 | 164 | 736 | 120 | 24 | 880 |

1/ Includes 6 acres of idle land.

Table 42.- Assets, indebtedness, and net worth of a wheat farmer with a dairy enterprise, southwestern Kansas, January 1, 1931, and October 1, 1937

| Year | Assets | | | | | Total assets | Debts | Net worth |
|------|-------------------------------|----------------|----------------|------------------------------|----------------|-----------------|---------|--------------|
| | Land and build- ings | Ma- chinery | Live- stock | Feed and sup- plies | Total | | | |
| | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars |
| 1931 | 12,000 | 2,478 | 1,965 | 240 | 4,683:1/16,883 | 4,970 | | 11,913 |
| 1937 | 9,600 | 2,525 | 1,760 | 105 | 4,390:2/14,899 | 8,899 | | 6,000 |

1/ Includes \$200 in accounts receivable.

2/ Includes \$909 in accounts receivable.

The cash income of the farm in 1931 was greater than cash expenses but the gross income lacked \$1,060 of meeting the operating expenses, depreciation charges, and inventory losses; and the operator had received nothing for his labor and investment (table 43).

Table 43.- Farm income by sources on a wheat farm with a dairy enterprise, southwestern Kansas, 1931 and 1937

| Year | Income | | | | | Change | | Cash | Net |
|------|-----------|----------------|-----------|-----------|--------------------------------|-----------|----------------|-----------|-----------|
| | Crops | Live- stock | Other | Total | Products: used in : home | Gross | inven- tory | | |
| | : Dollars | : Dollars | : Dollars | : Dollars | : Dollars | : Dollars | : Dollars | : Dollars | : Dollars |
| 1931 | 1/1,200 | 1,452 | - | 2,652 | 126 | 2,778 | -1,370 | 2,468 | -1,030 |
| 1937 | - | 2,673 | - | 2,673 | 155 | 2,828 | - 103 | 2/4,239 | -1,514 |

1/ All wheat.

2/ Includes \$1,457 cash expended for feed and seed, and \$985 expended on a new tractor.

By 1937, the operator had rented an additional 320 acres; his farm in that year comprising 880 acres. Sixty acres of the additional rented land were native grass, but 14 acres of the owned pasture land had been broken and the total acreage of native pasture land had increased only 46 acres. The acreage of cropland had increased 260 acres, most of which was seeded to wheat or was being fallowed for wheat. Seventy-eight percent of the planted acreage of both wheat and sorghums was abandoned. The yield on the 100 acres of wheat harvested in 1937 was only three bushels an acre, and that on the 20 acres of sorghums was three-fourths of a ton per acre.

The operator had increased the numbers of his milk cows, but he had less young stock than in 1931. The cattle on the farm on October 1, 1937 consisted of 22 Guernsey cows, 9 yearling heifers, 10 calves and 1 bull. Three brood sows purchased during 1937 and 10 pigs farrowed during the year were also on the farm, as was a flock of 250 chickens.

Special buildings and equipment on the farm remained the same as in 1931, except for a new poultry house valued at \$300. Crop machinery was also the same as in 1931, except for a field-cultivator purchased in 1936 and a new tractor purchased in 1937.

The value of the operator's farm property had declined \$2,693 by 1937, although most of this was the result of a decline in the estimated value of real estate. His liabilities had increased \$3,929, and his net worth had declined \$5,913, or, excluding the paper loss in the value of real estate, \$3,513. Excluding the losses from the decline in real-estate

prices and the aggregate return from AAA payments, the annual change from 1931 to 1937 in this operator's net worth would have been about \$1,350 if the land charge on his rented land had been comparable to that carried on his owned land.

All of the operator's cash income from the farm in 1937 was derived from the sale of livestock and livestock products. It totaled \$2,673, 10 percent coming from the sale of cattle, 13 percent from poultry and poultry products, and 77 percent from dairy products. It was to be augmented by AAA payments estimated at \$909, but cash expenses had increased since 1931 and the cash income in 1937, including 1937 AAA payments, was \$657 less than cash expenses. However, the operator did not receive the 1937 AAA payments during the year 1937. He did receive in 1937, \$1,451 in 1936 AAA payments, and, since he increased his indebtedness during that year by about \$1,050, he had \$905 for living expenses. Excluding AAA payments, his income lacked \$1,514 of meeting all operating costs, depreciation charges, and inventory losses.

Operating costs that were directly chargeable to the dairy enterprise were \$1,110 for feed, \$300 for labor, and \$50 for fence repairs. Cattle sales totaled \$250, and dairy products sales were \$2,068. The value of products used in the home was estimated at \$85, and the inventory value of the cattle increased \$100. The dairy enterprise for the year yielded a net return of \$1,043 for the operator's labor, use of equipment, and home feed consumed. Some of the loss shown by the crop enterprise, however, was chargeable to the cattle enterprise, since the 464 acres of wheat were pastured by the dairy herd from October 15, 1936 to April 15, 1937, and 6 acres of forage sorghums were grazed by the dairy herd in the summer of 1937. The poultry enterprise showed a net return in 1937 of \$216 for the use of equipment, labor and investment.

This operator had increased the size of both his dairy and poultry enterprise since 1931, but heavy machinery and other crop expenses, with little or no return from the crop enterprise, had led him into financial difficulties. His AAA payments from 1933-37 inclusive totaled \$3,161, yet he had incurred a feed and seed loan in each of the five years from 1933-37. The aggregate borrowed from that source totaled \$1,425, and the amount still outstanding on October 1, 1937 was \$682. Without Government payments and income from his dairy enterprise, it is not unlikely that this operator would have lost all equity in his farm property.

With the exception of the increase in the number of milk cows and the rather drastic decline in the net worth of the operator, changes on this case farm were characteristic of changes made on other farms having an important dairy enterprise. The majority of the farmers reporting ten or more milk cows in 1931 had increased their crop acreage, their pasture acreage, and their acreage seeded to wheat by 1937. Most of them had made a slight reduction in the number of their milk cows, but they had retained a higher proportion of their young stock than had the case farmer just cited, and they were in a position to rebuild their dairy enterprise to the 1931 level as soon as feed supplies became more plentiful. Most of them also

reported a decrease in their net worth, but their average net worth was only 25 percent smaller in 1937 than in 1931, whereas that of all farmers interviewed was 41 percent smaller.

In spite of the fact that their farms were somewhat larger than average, annual AAA payments received by these dairy farmers from 1933-36 averaged only \$750, or \$102 less than the average payment on all farms studied. As was the case with beef-cow enterprises, production-control payments offered no incentive for the maintenance of dairy enterprises. The shift of AAA programs to a conservation basis did give some incentive for the maintenance of livestock enterprises in that payments were made for the conservation of permanent pastures. But the dairy enterprises were maintained at a comparatively high level throughout the period studied and they were undoubtedly an important factor contributing to these operators' ability to maintain a relatively favorable financial status.

A Wheat Farm With a Poultry Enterprise

Only eight of the farmers interviewed in 1931 had a poultry enterprise comprising three hundred or more chickens. Five of these eight operators had liquidated or materially reduced their poultry enterprise by 1937 because of the limited production and comparatively high prices of grain. One of the three farmers who had retained a significant poultry enterprise was located in the eastern part of the area. A record of his earlier operations and financial status was available for 1930 only, but his success with his poultry enterprise was outstanding and it should serve to illustrate the effect in the area of a successful poultry enterprise on the farm organization and the operator's financial status.

In 1930 this farm consisted of 647 acres, 276 acres owned and 371 acres rented (table 44). Livestock on the farm consisted of 8 head of cattle - 3 milk cows, 2 yearling heifers, 2 calves and 1 bull; 6 horses; and a flock of 350 hens and 19 roosters.

Table 44.- Use of land on a wheat farm with a poultry enterprise, southwestern Kansas, 1930 and 1937

| Year | : Wheat | : Sorghums | : Fallow | : Total : crop- : land | : Native : pasture | : Farmstead : and : waste | : Total : operated |
|------|---------|------------|----------|---------------------------|--------------------|------------------------------|--------------------|
| | : Acres | : Acres | : Acres | : Acres | : Acres | : Acres | : Acres |
| 1930 | : 540 | : 13 | : 49 | : 602 | : 40 | : 5 | : 647 |
| 1937 | : 566 | : 11 | : 102 | : 679 | : 83 | : 31 | : 793 |

The equipment chargeable to the poultry enterprise was inventoried on January 1, 1930 at only \$55, but the purchase of a brooder stove during the year brought that figure to \$95. Buildings chargeable to the poultry enterprise were inventoried at \$725, and a brooder house built during the year brought that figure to \$845. The value of all of the operator's farm property on January 1, 1930 was \$32,387 (table 45).

Table 45. - Assets, indebtedness, and net worth of a wheat farmer with a poultry enterprise, southwestern Kansas, January 1, 1930 and October 1, 1937

| Year | Assets | | | | | | Total assets | Debts | Net worth |
|---|-------------|-----------------|---------|--------------|---------|---------|--------------|---------|-----------|
| | Land | Working Capital | | | | Total | | | |
| | and | Ma- | Live- | Feed | Total | | | | |
| | build- ings | chinery | stock | and supplies | | | | | |
| | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars |
| 1930 | 20,700 | 5,107 | 1,372 | 5,208 | 11,687 | 32,387 | --- | | 32,387 |
| 1937 | 25,785 | 3,625 | 588 | 1,050 | 5,263 | 35,393 | 2,325 | | 33,068 |
| 1/ Includes \$4,345 in accounts receivable, \$845 in AAA payments and \$3,500 from other sources. | | | | | | | | | |

Cash income on the farm in 1930 was \$4,693. As a result of the general price decline in 1930, the farm income lacked \$1,563 of meeting all operating costs, depreciation, and inventory losses; but the cash income was \$2,585 in excess of cash expenses (table 46).

Table 46. - Farm income by sources on a wheat farm with a poultry enterprise, southwestern Kansas, 1930 and 1937

| Year | Income | | | | | | Change | | Net farm income |
|---------------|---------|---------|---------|---------|-------------------|---------|-----------|----------|-----------------|
| | Crops | Live- | Other | Total | Products used in: | Gross | in inven- | Cash ex- | |
| | | stock | | cash | home | | tory | penses | |
| | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars |
| 1930 | 1/2,303 | 2,164 | 226 | 4,693 | 229 | 4,922 | -4,377 | 2,108 | -1,563 |
| 1937 | 1/845 | 1,147 | 24 | 2,016 | 180 | 2,196 | -989 | 2,607 | -1,400 |
| 1/ All wheat. | | | | | | | | | |

The poultry enterprise returned an income of \$844 for the home-grown feed consumed, the operator's labor, investment, and use of equipment. A part of the chicks for the laying flock were purchased and a part were

hatched commercially, eggs from the farm flock being used but the hatching contracted. Chicks of a heavy breed were hatched on the farm for sale as fryers, and the purchase of hatching eggs was a major poultry expense. The total cash expense for the poultry enterprise was \$1,184. It comprised \$30 for roosters, \$38 for chicks, \$424 for hatching eggs, \$64 for hatching, \$567 for feed, and \$61 for miscellaneous expenses. The cash income consisted of \$1,310 from the sale of poultry and \$629 from egg sales. In addition, \$79 worth of poultry and eggs were consumed in the home, and the inventory value of the poultry increased \$10.

This operator had increased the size of his farm by 1937. He had reduced his rented land to 320 acres, but had purchased and was operating an additional 197 acres, the total farm operated comprising 793 acres. The acreage seeded to wheat had increased, as had that being fallowed for wheat. Only 161 acres of wheat were harvested, but the yield on that harvested was 11 bushels per acre. The sorghums failed completely and were abandoned.

The equipment and buildings chargeable to the poultry enterprise were the same as those on the farm at the end of 1930, the equipment on October 1, 1937 being valued at \$45, and the buildings at \$750. The production of fryers for sale had been abandoned and the emphasis shifted to egg production. A certified flock of some 422 leghorn chickens had been built up by October 1, 1936; but 162 hens and 259 young chickens were lost in 1937 due to an unknown disease.

Cash income on the farm in 1937, exclusive of AAA payments, was \$2,016. Cash expenses totaled \$2,607, but the operator received \$1,365 in 1936 AAA payments and, since he did not incur any indebtedness during the year, he had \$774 for living expenses. Adjusted for the value of products used in the home and for 1937 AAA payments which were estimated at \$845, the gross income was \$3,041. Gross expenses adjusted for inventory losses totaled \$3,596, so, even with AAA payments included, the farm income lacked \$555 of meeting all operating costs, depreciation, and inventory losses. However, this deficit would have been offset by the poultry enterprise, if it had not been for the losses resulting from disease.

Notwithstanding those losses and the comparatively high price of poultry feeds, the poultry enterprise in 1937 returned an income of \$64 for home feed consumed, the operator's labor, investment, and use of equipment. Cash sales of poultry totaled \$12 and eggs \$843. Poultry and poultry products valued at \$90 were consumed in the home, and the inventory loss was only \$9. Poultry expenses were \$790 for feed and \$55 for such miscellaneous items as fuel for brooder stoves, blood testing, culling, etc.

The value of the operator's farm property had declined only \$1,339, and his net worth had increased \$681 between January 1, 1930 and October 1, 1937. Because of the purchase of additional land, the value of owned real estate had increased, but a decline in the per acre value of land had caused a paper loss of some \$8,418. Excluding this paper loss in

land values and the aggregate return from AAA payments, the annual change from 1930 to 1937 in this operator's net worth was an increase of \$476. No additional land charge need be made against rented land to make this \$476 annual increase in net worth comparable to the annual loss of more than \$1,700 suffered by the cash-grain case farmers and the annual loss of more than \$1,300 suffered by the case farmers with a cattle enterprise. Because of better than average success in wheat production, this operator had apparently been paying a crop rent comparable in value to the land charge assessed against other case farmers' rented land when converting their operations to an owner-operator basis.

His comparative success in wheat production was no doubt a major factor in this operator's financial success between 1930 and 1937, but it was only one of several contributing factors. He had entered the period free of debt and consequently had not had any heavy interest charges to meet. His poultry enterprise had contributed toward his living and operating expenses, a factor of special significance during years when income from his usual sources was limited. By confining his minor enterprise to poultry, he was able to maintain a relatively large wheat enterprise and to receive higher than average AAA payments. His average annual AAA payment from 1933-36 was \$1,111, or \$1.40 per acre operated as compared with an average payment of 85 cents per acre received by all farmers interviewed.

A Wheat Farm With a Hog Enterprise

An operator of a farm in the western part of the area had developed a minor hog enterprise by 1931 and, although depending primarily on wheat for his income, received a significant part of his income from the sale of hogs. Because of a sandy loam soil suitable to the production of row crops, his farm was better adapted to hog production than many farms in the area, but changes made after 1931 in his hog enterprise are typical of changes made in hog enterprises throughout the area. They illustrate the limitations of a continuous hog enterprise in an area in which grain crops are frequently a complete failure.

In 1931 this operator was farming 720 acres, 560 acres owned and 160 acres rented (table 47). The hog enterprise on January 1, 1931 consisted of 10 brood sows, 8 pigs, 12 market hogs, and 1 bear. Other livestock consisted of three cows and a few chickens kept to supply products for the family.

Table 47.- Use of land on a wheat farm with a hog enterprise, southwestern Kansas, 1931 and 1937

| Year | Wheat | Corn | Sorghums | Sudan | Fallow | Total crop-land | Native pasture | Farmstead and waste | Total operated |
|------|-------|-------|----------|-------|--------|-----------------|----------------|---------------------|----------------|
| | Acres | Acres | Acres | Acres | Acres | Acres | Acres | Acres | Acres |
| 1931 | 600 | 40 | 4 | - | - | 1/660 | 50 | 10 | 720 |
| 1937 | 316 | - | 2/127 | 8 | 75 | 3/493 | 47 | 20 | 560 |

1/ Includes 16 idle acres.

2/ Includes 77 acres planted on abandoned wheat.

3/ Includes 44 idle acres.

This farmer had little special equipment either for the hogs or the row crops. There was some hog fencing and an old hog house valued at about \$40. The corn land was worked with tractor machinery, most of which was also used on wheat. The corn land was cultivated by one-waying, listing and planting, cultivating one time, harrowing, and tandem disking between the rows. The corn yield in 1931 was only 15 bushels per acre, whereas the wheat yield was about 30 bushels per acre. The value of all of the operator's farm property on January 1, 1931 was \$29,073 (table 48). An outstanding indebtedness of \$5,200 left him a net worth of \$23,873.

The cash income in 1931 was \$3,729, of which over 10 percent came from hogs (table 49). The operator received \$894 for his labor and investment. The hog enterprise returned a cash income \$369 in excess of cash expense. The inventory price of hogs had declined about 60 percent, however, and after adjusting sales and the value of products used in the home for inventory losses and cash expenses, the income from the hog enterprise was only \$141.

Table 48.- Assets, indebtedness and net worth of a wheat farmer with a hog enterprise, southwestern Kansas, January 1, 1931 and October 1, 1937

| | Assets | | | | | | | |
|------|---------------------|------------|------------|-------------------|---------|--------------|---------|-----------|
| Year | Land and build-ings | Ma-chinery | Live-stock | Feed and supplies | Total | Total assets | Debts | Net worth |
| | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars |
| 1931 | 24,800 | 2,423 | 654 | 1,196 | 4,273 | 29,073 | 5,200 | 23,873 |
| 1937 | 11,200 | 1,394 | 417 | 157 | 1,968 | 1/13,851 | 3,170 | 10,681 |

1/ Includes \$683 in accounts receivable.

Table 49. - Farm income by sources on a wheat farm with a hog enterprise, southwestern Kansas, 1931 and 1937

| Year | Income | | | | Products: | | Change : | | Cash : | Net |
|------|---------|----------------|---------|---------|-----------|---------|----------------|---------------|---------|----------------|
| | Crops | Live- stock | Other | Total | used in: | Gross | inven- tory | ex- penses | | |
| | | | | cash | home | | | | | farm income |
| | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars |
| 1931 | 1/3,296 | 433 | - | 3,729 | 70 | 3,799 | -1,263 | 1,637 | | 894 |
| 1937 | - | 369 | 50 | 419 | 113 | 532 | 294 | 2/1,487 | | -661 |

1/ All wheat.

2/ Includes \$500 expended on a new tractor.

The rented land having been dropped after 1933, this farmer was operating only his 560 acres of owned land in 1937. Any attempt to produce corn had been abandoned. The acreage seeded to wheat was reduced, but 75 acres were being fallowed in preparation for wheat. All but 4 acres of the wheat was abandoned, and 77 acres of sorghums were planted on abandoned wheat land. Ninety-six acres of sorghums were harvested, the total yield being 171 bushels of grain and three tons of forage.

A repeated failure of grain crops had led to the abandonment of hog production on this farm. Two gilts were on the farm on October 1, 1936, but these were sold and the only hogs on the farm on October 1, 1937 were two pigs that had been purchased during the year for home consumption. Other livestock included 3 milk cows and 5 head of other cattle, and about 100 chickens.

Both cash income and cash expense were reduced from those of 1931. The cash income, exclusive of AAA payments, was only \$419. Cash expenses totaled \$1,487, but the operator received \$860 in 1936 AAA payments and increased his indebtedness during 1937 by \$800, so he had \$592 for living expenses. Adjusted for the value of products used in the home and for 1937 AAA payments which were estimated at \$683, the gross income in 1937 totaled \$1,215. Inventory values increased \$294 during the year, and the net farm income in 1937, including 1937 AAA payments, was \$22 in excess of all expenses. The operator had increased his indebtedness during the year, but most of the additional indebtedness was because of the purchase of a new tractor.

The value of the operator's farm property declined \$15,905 between January 1, 1931 and October 1, 1937, but \$13,600 of this was because of a decline in the estimated value of real estate. The operator had received \$2,307 in AAA payments between 1933 and 1936, and he had decreased his indebtedness \$2,030. Excluding the paper loss in the value of real estate, the operator's net worth had increased \$408 between 1931 and 1937. Excluding both the paper loss in the value of real estate and the aggregate return from AAA payments, his net worth had decreased

only \$369 annually. Apparently, the hog enterprise was not significant in this operator's success in maintaining his financial status. Because of the limited production and the comparative high prices of grain, he had abandoned the hog enterprise as had eight of the nine farmers who reported more than 5 brood sows in 1931. He had maintained his financial status only by reducing his operations and his expenses to the level of the income provided by the farm and the AAA payments.

A Small Ranch With a Wheat Enterprise

Only one ranch was studied in both 1931 and 1937. This ranch, with a wheat enterprise, was located in the south central part of the area. Cattle were, of course, the major enterprise. The wheat enterprise was not particularly significant in 1931, but it had been developed somewhat by 1937. Its development, together with the general organization and the success of the ranch, illustrate the feasibility of range cattle production in combination with wheat production in those portions of the area where permanent pasture is available.

This ranch comprised 1,870 acres in 1931, 320 acres owned and 1,550 acres rented (table 50). Special equipment required for the 35 acres of wheat consisted of one grain drill valued at \$20, the harvesting having been hired and the seedbed having been prepared with equipment used on the feed crops.

Table 50.- Use of land on a small ranch with a wheat enterprise, southwestern Kansas, 1931 and 1937

| Year | Wheat | Corn | Sorghums | Alfalfa: and sweet clover | Fallow | Total crop- land | Native pasture | stead: and waste | Total operated acres |
|------|-------|-------|----------|---------------------------------|--------|------------------------|-------------------|------------------------|----------------------------|
| | Acres | Acres | Acres | Acres | Acres | Acres | Acres | Acres | Acres |
| 1931 | 35 | 50 | 135 | 55 | 15 | 290 | 1,575 | 5 | 1,870 |
| 1937 | 79 | -- | 82 | - | 44 | 205 | 1,410 | 25 | 1,640 |

The livestock on the ranch on January 1, 1931 consisted of 135 head of cattle, 9 hogs, 9 horses, and 520 chickens. The herd of cattle consisted of 82 beef cows, 10 heifers, 40 calves, and three bulls. Two milk cows were purchased during the year to supply dairy products to the household, and some surplus dairy products were sold. The poultry flock consisted of 490 hens and 30 roosters, while the herd of hogs consisted of eight shoats and one pig. Six horses and three colts comprised the horses on the ranch.

Special buildings and equipment for the various livestock enterprises were valued as follows: cattle-buildings, \$630, and equipment, \$90; poultry-

buildings, \$1,050, and equipment, \$129; hogs-buildings, \$45, and equipment, \$70; horses-equipment, \$50. No special buildings were entirely chargeable to horses, but an old barn valued at \$25 and a corn crib valued at \$95 were chargeable to all classes of livestock, as was a feed grinder valued at \$55. The total value of all buildings for livestock was \$1,755, and that of all equipment, \$394, a total of \$2,149. The value of all of the operator's farm property on January 1, 1931 was \$18,287, and the operator's net worth was \$12,342 (table 51).

Table 51.- Assets, liabilities, and net worth of a rancher with a wheat enterprise, southwestern Kansas, January 1, 1931 and October 1, 1937

| Assets | | | | | | | | |
|--------|---------|----------|---------|----------|---------|-----------|---------|---------|
| Year | Land | Ma- | Live- | Feed | Total | assets | Debts | Net |
| | build- | chinery: | stock | and sup- | Total | | | worth |
| | ings | | | plies | | | | |
| | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars |
| 1931: | 9,980 | 1,398 | 5,708 | 701 | 8,307 | 1/ 18,407 | 6,065 | 12,342 |
| 1937: | 4,000 | 1,195 | 3,600 | 1,050 | 5,845 | 2/ 10,053 | 5,984 | 4,069 |

1/ Includes \$120 in accounts receivable.

2/ Includes \$208 in accounts receivable.

Cattle sales were held at a minimum in 1931 because of low prices, and, as a result, the total cash income on the ranch in that year was only \$2,152 (table 52). Six percent of this was derived from the sale of wheat, 44 percent from cattle, 4 percent from dairy products, 41 percent from poultry and poultry products, 4 percent from hogs, and 1 percent from miscellaneous sources. The ranch income lacked \$1,145 of meeting all operating costs, depreciation charges, and inventory losses.

Table 52. - Ranch income by sources on a small ranch with a wheat enterprise, southwestern Kansas, 1931 and 1937

| Income | | | | | | | | |
|--------|---------|---------|---------|---------|-----------|---------|---------|---------|
| Year | Crops | Live- | Other | Total | Products: | Change | Cash | Net |
| | | stock | | cash | used in | in | ex- | farm |
| | | | | | home | inven- | penses | income |
| | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars |
| 1931 | 1/ 120 | 1,999 | 33 | 2,152 | 251 | 2,403 | -1,514 | 2,034 |
| 1937 | 1/ 223 | 4,552 | - | 4,775 | 20 | 4,795 | 403 | 1,948 |

1/ All wheat.

The wheat enterprise returned an income of \$120. The cattle enterprise showed a net loss of \$668 when cash income and value of products used in the home were adjusted for inventory losses and all cash expenses. The loss, however, was because of a decline in the price of cattle. The herd increased during the year from 135 to 167 head, and, if the price of the January 1 inventory had been maintained and had been applicable to the December 31 inventory, the cattle enterprise would have shown a net return of \$1,575 for the use of equipment, operator's labor, and investment. The poultry enterprise returned an income of \$420, including \$74 worth of products used in the home.

The operator had lost the use of 165 acres of rented pasture and 85 acres of rented cropland by 1937. His ranch at that time consisted of 1,640 acres, 320 acres owned and 1,320 acres rented. The attempt to produce corn had been abandoned, and the acreage seeded to sorghums reduced. The reduction in the acreage of feed crops had been offset at least in part by an expansion of the wheat acreage to 79 acres, the principal reason for the expansion being to provide pasture for the cattle. The other 44 acres of cropland were being fallowed in preparation for wheat. The yield from the forage sorghums was light. Only 42 acres were harvested, and the total production was only 15 tons. The other 40 acres were grazed off by the cattle. The wheat was seeded on summer-fallow ground worked on the contour. Eleven acres were abandoned in 1937 because of drought and wind erosion, but the 68 acres harvested yielded 18 bushels per acre. In addition to the grain produced, the wheat provided pasture for 60 head of cattle for a period of 90 days. Moreover, the wheat was bound and threshed, and about ten tons of straw were saved. In spite of the expansion in wheat acreage, the drill was still the only special equipment for the enterprise as all harvesting was hired.

All classes of livestock had been reduced on the ranch by October 1, 1937. The cattle had been reduced to 65 cows, 50 calves, and two bulls because of crop failures and depleted pastures. Hog production had been about eliminated, and, because of the development of range paralysis in the flock, the poultry had been reduced to 30 hens. The horses had been cut down to three work horses and one saddle horse. Except for the purchase of a corn-sheller valued at \$150, special buildings and equipment for the livestock remained the same as in 1931, although it had depreciated considerably in value.

The total cash income in 1937, exclusive of AAA payments, was \$4,775, 94 percent of which came from cattle, 5 percent from wheat, and 1 percent from hogs. The ranch returned \$3,250 to the operator for his labor and investment and this was to be augmented by AAA payments estimated at \$208. Much of this income was from the cattle enterprise. Death losses were light in 1937 and cattle prices good, and, as a result, the cattle enterprise returned a net income of \$2,638. It was augmented chiefly by the wheat enterprise, which returned \$223 in cash income and showed an inventory increase of \$945. Cash expenses on the wheat enterprise totaled about \$400, so, in addition to furnishing pasturage for the cattle, it returned an income of approximately \$768 for the operator's labor, investment, and use of equipment.

The value of the operator's ranch property had declined to \$9,845 by October 1, 1937, a decline of \$8,442 from that on January 1, 1931. The operator's indebtedness and accounts receivable had changed but little since 1931, and, although his net worth had declined \$8,273, nearly \$6,000 of that was because of a decline in the estimated value of real estate and another \$500 was because of a decline in the inventory price of cattle. This operator had received only \$512 in AAA payments from 1933 to 1936. He was paying a cash rent on his rented pasture comparable to the land charge carried on most owned pasture in the area, and he was putting two children through college. Yet, excluding the paper loss in real estate values and the aggregate return from AAA payments, his net worth between 1931 and 1937 had decreased only \$470 annually. Apparently his small ranch with its minor wheat enterprise had come successfully through the period from 1931 to 1937 with little help from the AAA programs.

SUMMARY AND CONCLUSIONS

Low prices in 1931 and 1932, followed by extremely low crop yields during the period of drought from 1933-37 induced, and in many cases forced, southwestern Kansas wheat farmers to make adjustments in the organization of their farms. The average yield of wheat per planted acre did not exceed 3.3 bushels, and that of corn did not exceed 3.0 bushels from 1933-37. The yield of grain sorghums did not exceed 2.9 bushels per planted acre from 1934-37, and it is evident that diversification of crops planted is no assurance of grain production during such a period of drought.

Drought has been the major hazard of crop production, but soil blowing, hail, torrential rainfall, insects, and plant diseases increase the risk of crop production in the area.

Nearly all farmers in the area participated in the various AAA programs. It was profitable for them to do so. As a result, the AAA programs were probably the most significant of the various Governmental programs operating in the area in effecting changes or preventing changes in the organization of farms. Payments were distributed to nearly all farmers at a time when incomes from normal sources were particularly low. They provided the means whereby the majority of farmers were enabled to maintain their homes and to cultivate their land, but at the same time they tended to encourage the retention of crop uses of land unsuited to crop production. They prevented or at least alleviated hardships and suffering on the part of the farmers. But, particularly in their earlier phase, they likewise prevented a distinct and permanent retreat from a cash-grain economy which, established during a period of abnormally favorable conditions, cannot conceivably be continued in the area without bringing recurrent periods of crop failure and depression.

Changes on Farms Between 1931 and 1937

Changes in the Organization of Farms included (a) an elimination from farming in the area of about one-fifth of the cooperators, primarily those who owned little land or who, because of excessive indebtedness, owned their land in name only and consequently had little capital goods they could consume; (b) a decrease in the size of farms with a small acreage of cropland and a shift of small-crop operators to grassland vacated by operators who quit farming; (c) an increase in the size of farms with a large acreage of cropland through an acquisition by the large-crop operators of cropland vacated by operators who quit farming and by small-crop operators who shifted to vacated grassland; (d) a shift from corn production to sorghum production, and a slight reduction in wheat acreage with a concomitant increase in idle and fallow acreage; (e) a reduction of all classes of livestock except milk cows; and (f) a slight decrease in the number of combines and an increase in the number of tractors and light trucks.

Production-control payments, based primarily on wheat acreage, enhanced the demand for cropland as well as the bargaining power for land of large-crop farmers whose living and operating expenses on a crop-acreage basis were relatively low. The payments tended to diminish the relative bargaining power for land of small-crop farmers whose living and operating expenses on a crop-acreage basis were high, and, as a result, they tended to facilitate the acquisition of cropland by large-crop farmers and the shift of small-crop farmers to grassland in their losing struggle to maintain operations in the area. The payments were not sufficient to enable the continuation of operations by some farmers who had little reserves to fall back on and who owned little or no land and consequently had to forego that portion of AAA payments made to land owners. Nor were the payments sufficient to enable the maintenance of financial status by owner-operators who had incurred real-estate indebtedness on the basis of inflated real-estate prices. The additional payments accruing to such operators as a result of their ownership of land were not sufficient to offset the land charges they were carrying in the form of real-estate taxes and interest on real-estate indebtedness.

The AAA programs had little effect on the shift from corn to sorghum production, that shift having been made largely as a result of drought conditions. The programs did encourage the increase in idle cropland by making payments for diversion. After 1936 they made payments for, and, consequently encouraged the increase in fallow, but it is probable that there would have been an even larger decrease in wheat acreage and a larger increase in idle cropland had there been no AAA payments to finance operations. An additional decrease in wheat acreage would have reduced the wheat farmers' source of potential farm income until their idle cropland could be restored to permanent grass, but it would have reduced their financial losses during the period studied since their wheat enterprises were not paying expenses.

The effect of the programs on the reduction of livestock was indirect. The reduction was made largely as a result of drought conditions and depleted feed supplies. But, by basing payments primarily on the size of the wheat enterprise, the earlier programs encouraged a retention of crop enterprises. When operators were unable to maintain both crop and livestock enterprises they retained those crop enterprises through which AAA payments provided the most assistance.

The programs had little effect on changes in power machinery, except through their effect in maintaining the farmers' purchasing power. Farmers who, without such payments would have been unable to do so, were enabled by AAA payments to maintain and even to purchase tractors, trucks, and combines.

Changes in Crop Practices were a decrease in the use of the one-way plow and an increase in the use of such deep-tillage implements as the chisel, field-cultivator, and lister. The need for these implements grew primarily out of the need for erosion-control practices. The earlier AAA programs made possible their purchase and operation by maintaining the farmers' purchasing power, while the 1937 conservation program encouraged their use by making payments for specific practices requiring their use. The amount of conservation obtained by their use was dependent upon physical conditions and the manner and timeliness of their use. In general, the use of these deep-tillage implements tended to conserve both moisture and soils.

Changes in the Financial Status of Farm Operators included (a) a 34 percent decline in the value of all assets, or a 33 percent decline in the value of real estate and a 38 percent decline in the value of working capital, both of which declined most on farms with the smallest acreage of cropland and least on farms with the largest acreage of cropland; (b) a 7 percent decline in indebtedness; and (c) a 43 percent decline in net worth. Most of the farmers still operating in the area remained solvent in 1937, but some of those operating small acreages of cropland had turned to outside sources for income.

Much of the decrease in the value of assets and in the net worth of these operators was due to the decline in real-estate prices. Excluding that portion of their loss which was only a paper loss unless they were carrying real-estate indebtedness based on inflated real-estate prices, the average decrease in assets was only 18 percent and that in net worth was only 23 percent. This adjusted net worth had declined 69 percent on farms with less than 300 crop acres, but on farms with 900 or more crop acres it had increased.

The AAA programs contributed to these farmers' solvency by providing them with working capital at a time when income from usual sources was limited. They were particularly helpful to farmers operating a large acreage of cropland. Only 8 percent of the farmers interviewed were not solvent in 1937, but the AAA payments were primarily responsible for keeping another 22 percent solvent. The percent of farmers remaining solvent as a result of AAA payments, increased as the number of crop acres operated increased.

A further contribution of AAA programs toward the maintenance of these operators' financial status was their effect in preventing a more drastic decline in real-estate prices. By providing working capital, the AAA payments made possible the continued demand for land, and, consequently, prevented a more drastic decline in its price.

The only marked change in the condition of the physical plant between 1931 and 1937 was a depletion of machinery. Most farm buildings were in a reasonably good state of repair in 1937, and the productivity of few farms, if any, had been permanently impaired by erosion.

Most farmers survived the period of crop failures and general depression in the area by living and operating their farms primarily on the funds provided by AAA payments. Some consumption of capital goods was necessary to continue operations on all but the group of farms with the largest acreage of cropland. The largest crop farmers with the aid of relatively large AAA payments were able to maintain and even to increase their capital. Some of the operators with the smallest acreage of cropland had turned to outside sources for income, yet by 1937, they had consumed about two-thirds of the capital goods in their possession in 1931, and it is evident that they cannot continue to survive very much longer unless their farm income or their income from outside sources is increased.

Case Farms of Different Types

The average net worth reported by three cash-grain operators declined \$525 annually between 1931 and 1937 while an annual decline of \$1,366 was reported by five operators who had a livestock enterprise in addition to wheat. When the loss resulting from the decline in real-estate prices is eliminated, however, the annual loss in the cash-grain operators' net worth was \$326 whereas that of the operators with livestock was only \$32.

It is not possible to determine exactly what change in net worth would have occurred had these operators received no AAA payments, but if their total 1933-37 payments were deducted from their 1937 net worth, the change from the 1931 net worth adjusted to 1937 land prices would be an annual loss of \$1,259 for the cash-grain operators and only \$447 for the operators with livestock. When these measures of financial losses are adjusted still further by charging tenant operators with an annual land charge comparable to that carried by similar operators who owned their farms and by charging part owner-operators with an annual land charge on rented land comparable to that which they were carrying on their owned land, they show that the cash-grain operators suffered an annual loss in net worth of \$1,769 as compared with only \$588 lost annually by the operators with livestock. This adjustment in land charges is essential since crop production from 1932-37 was limited and the land charge carried by tenant-operators in the form of a share rent was usually much smaller than that carried by owner-operators in the form of real-estate taxes and interest on real-estate indebtedness.

It is apparent that the resources of strictly cash-grain farmers would have been depleted significantly more than those of cash-grain farmers who had developed other enterprises if the land charges and the AAA payments of both groups had been comparable. But a detailed study of these individual farms indicates that although different enterprises tended to induce different changes both in the operators' financial status and in

the farm organization, these changes varied from farm to farm having the same enterprises since they were frequently, if not always, conditioned by different situations on each farm.

A Wheat Farm with a Crop in 1937 was selected for a cash study to determine what changes were made throughout the area on wheat farms which produced at least one crop in recent years. Partly because he did a good job of farming, but primarily because he received a local rain during a critical period in the growing season, the tenant-operator of this farm produced crops in 1937 valued at \$4,866. He had produced a fair crop of wheat in 1932 but had suffered a failure or near failure of wheat from 1933 through 1936.

Between 1931 and 1937, this operator had increased the size of his farm and the proportion of his farm land used as cropland. He had decreased his wheat acreage and increased that being fallowed. He had abandoned any attempt to produce corn, but had increased his acreage of sorghums. His livestock and machinery were depleted and his expenses had increased. The value of his assets had increased, but in spite of the receipt of \$5,562 in AAA payments from 1933-37, his indebtedness had increased and his net worth had declined. If all AAA payments which he had received were deducted from his 1937 net worth, the change in his net worth from 1931-37 would show an annual loss of \$853. Had his land charges been comparable to those of a cash-grain owner-operator cited later as a case study, the annual loss in his net worth would have been \$1,615.

A Wheat Farm without a Wheat Crop in 1937 was studied to determine what changes had been made in the farm organization and financial status of wheat farmers producing little or no wheat in recent years. This tenant-operator produced a small crop of wheat in 1932, and again in 1934, but his wheat failed in 1933, 1936 and 1937, and it was nearly a failure in 1935.

Although his indebtedness in 1931 was not excessive, a continued failure of wheat, a lack of other sources of farm income, and an increasingly high machinery indebtedness eventually brought disaster to the operator of this farm. Foreclosure proceedings took most of his equipment, and, lacking equipment, he was displaced in 1936 from the farm he had been operating. AAA payments enabled him to continue as a farm operator, but he was forced to move to a sandy, less productive farm; to purchase on credit a minimum amount of depleted machinery; and to do custom work in 1937 to help finance his own farm operations. The size of his farm, his acreage of cropland, and his acreage of wheat had decreased, but his farming had become even more speculative than before. He was seeding wheat on 83 percent of his sandy cropland, much of which in the interest of conservation should be removed from crop production. He had three milk cows but no other livestock. In spite of relatively high AAA payments and an exceptional success in the production of sorghums on abandoned wheat land, the value of his working capital had decreased 45 percent between 1931-37. His indebtedness had decreased and his net worth had increased as a result of the debt adjustment through foreclosure, but if all AAA payments which he had received were deducted from his 1937 net worth, his change in net

worth from 1931-37 would show an annual loss of \$991. And if his land charge had been comparable to that of the owner-operator cited as the next case study, the annual loss in his net worth would have been \$1,760. The amount of his AAA payments had been reduced considerably as a result of the reduction in his crop acreage. The production of a crop would force him to buy an almost complete set of new machinery, and again increase his indebtedness, while a continued failure of wheat will eventually force him out of farming.

A Wheat Farmer with Heavy Land Charges suffered financial losses which were indicative of the financial difficulties encountered by strictly cash-grain operators who, with limited financial reserves and with little or no income from their land, have had to bear the charge incidental to land ownership and real-estate indebtedness. This operator owned all of his 800-acre farm, but he was carrying \$11,000 indebtedness in 1931. Most of his farm was seeded to wheat. His livestock was limited to one milk cow and a few chickens.

This operator had not changed either the size or the organization of his farm by 1937. But the continuous drain on his resources by living expenses, land charges and other operating expenses, during a series of poor crop years, brought an inevitable increase in his indebtedness and a decrease in his net worth. He had increased his indebtedness \$340 annually between 1931-37. Exclusive of his loss resulting from decreased land values, his net worth had decreased \$1,084 annually. He had received relatively large AAA payments which, if deducted from his 1937 net worth, would leave him an annual loss in net worth of \$1,932.

The effect of AAA payments on cash-grain operators' ability to continue their operations during a period of short crops is illustrated by the receipts and expenses of this owner-operator in 1937. Cash receipts from his farm in 1937 totaled only \$267, whereas cash expenses totaled \$1,650. AAA payments received in 1937 for the 1936 program totaled \$1,243, but the \$140 deficit, together with \$650 for living expenses during the year, had to be acquired by borrowing \$790.

A Wheat Farm with a Beef-Cow Enterprise had not changed materially in size. The use of land was practically unchanged, except for an increase in acreage of annual pasture. The operator had had even less success in the production of wheat than had the cash-grain operators mentioned above. In an attempt to maintain his income he had shifted the emphasis of his cattle production to that of dairy products. He had reduced the size of his cattle enterprise, but it returned a net income of \$425 in 1937. He had increased the size of his poultry enterprise. His indebtedness had increased slightly and his net worth had declined. When adjusted for the effect of land charges, AAA payments, and fluctuating land prices, the annual loss in his net worth was \$1,380.

A Wheat Farm with a Dairy Enterprise had increased in size, the major portion of the increase being in cropland. The acreage in wheat, that in sorghums, and that being fallowed had all been increased. The operator had increased

the number of his milk cows and the size of his poultry enterprise. The dairy enterprise in 1937 yielded a net return of over \$1,000, and the poultry enterprise over \$200, for the operator's labor, use of equipment, and home feed consumed. But, because of heavy machinery and other crop expenses, with little or no return from the crop enterprise, the net income from the entire farm, including \$909 in AAA payments, lacked \$1,514 of meeting all operating costs, depreciation charges, and inventory losses. The operator had received \$3,161 in AAA payments from 1933-37, yet his indebtedness had increased and his net worth had declined. Annual losses in net worth suffered by this operator were about the same as those suffered by the preceding case farmer with a beef enterprise. He, too, had had less success in wheat production than had the cash-grain farmers, yet when influences of AAA payments and land ownership are eliminated, he suffered smaller losses than did the cash-grain farmers.

A Wheat Farmer with a Poultry Enterprise between 1930 and 1937 had increased the size of his farm. The wheat acreage and that being fallowed for wheat were increased. The poultry enterprise had been increased somewhat in size, and in spite of heavy losses resulting from disease, it returned a net income in 1937 of \$64 for home feed consumed, the operator's labor, investment, and use of equipment. The operator's net worth had increased \$681 between 1930-37, but, even with a profitable poultry enterprise, this would have been impossible without the \$5,290 received in AAA payments between 1933-37. Excluding the influence of AAA payments and decreased land prices, this operator between 1930 and 1937 had increased his net worth \$476 annually.

Estimates of his production indicate that this operator has had better than average success in his production of wheat, but this was only one of several factors contributing to his financial success between 1930 and 1937. He entered the period free from debt and consequently did not have heavy interest charges to carry. His poultry enterprise contributed toward the payment of his living and operating expenses, a factor of special significance during years when income from his usual sources was limited. And by confining his livestock enterprise to poultry he was able to maintain a relatively large wheat enterprise and to secure higher than average AAA payments.

A Wheat Farmer with a Hog Enterprise in 1931 had abandoned his hog enterprise by 1937 because of the limited production and comparatively high prices of grain. He had reduced the size of his operations and his cash expenses, and in this manner had been able, with the aid of \$2,990 received in AAA payments from 1933-37, to nearly maintain his financial status of 1931. Excluding the influence of AAA payments and decreased land prices his net worth had declined only \$369 annually between 1931 and 1937.

A Small Ranch with a Wheat Enterprise was studied to determine the feasibility of such an organization in this area. With little additional investment, the wheat enterprise was producing pasture for the cattle in addition to a cash crop. The wheat acreage had been increased between 1931 and 1937. The numbers of livestock had been reduced because the carrying capacity of the pasture had decreased as a result of drought. Although AAA payments were

relatively small and the operator had been burdened financially in educating his children, he had nearly maintained his financial status of 1931. Excluding the influence of AAA payments and decreased land prices, his net worth had declined only \$470 annually.

The experiences of these farmers should be helpful in formulating agricultural programs designed to assist in the establishment and maintenance of a stable agriculture in the area. Most of the livestock enterprises on these farms returned some profit during the adverse period from 1931-37, whereas the cash-grain enterprise could not have been continued without the assistance provided by AAA payments. Though their returns were more than offset by losses suffered on cash-grain enterprises, the beef and dairy enterprises returned a profit. The poultry enterprise also returned a profit in spite of unusually heavy losses resulting from disease. The small ranch with a wheat-for-pasture enterprise suffered some loss, but the operator had had exceptional personal expenses and his losses were held at a minimum. The hog enterprise had been liquidated because of the limited production and comparatively high prices of grain. Since a successful hog enterprise depends upon a dependable supply of grain, it is the one livestock enterprise studied which apparently would not help stabilize agriculture in southwestern Kansas where grain production is so uncertain.

Assistance Needed to Help Stabilize Agriculture

Heavy investments in specialized wheat machinery, together with the difficulties involved in shifting from grain farming to livestock production during a period of drought and depression, limited most of these farmers in their attempts to adjust their farm organizations and farm practices to changing climatic and economic conditions. AAA payments, particularly those for production control, served as another deterrent to such an adjustment in that they were based primarily on wheat acreage and they tended to maintain wheat enterprises at a comparatively high level. The conservation programs have given some incentive for the maintenance of livestock enterprises, but apparently additional assistance will be necessary before livestock enterprises can be reestablished and maintained at a level sufficient to contribute materially to the stabilization of agriculture in the area.

Additional assistance might well be given in the restoration of that acreage which can be used most effectively as permanent pasture. Experience has already shown that little restoration can be expected so long as government payments which can be earned on the land if retained as cropland, exceed either the cost of retaining it as cropland or the payments for restoration. The County Planning Program provides an excellent tool for an effective determination of that acreage which should be restored, but here again little can be accomplished so long as government payments give the land owner or operator an economic advantage in retaining their land in crop uses.

The restoration of land in southwestern Kansas will not be a short-time process. Additional assistance might well be given in: (a) the planting of annual pastures to provide pasturage until such time as permanent grasses can be reestablished; (b) the production of sorghums and other feed crops to reduce the acreage of pasture required for a minimum operating unit, and to provide feed reserves during future periods of limited production; (c) the conservation of permanent pastures remaining in the area so that during periods of limited production cash-grain enterprises will not maintain an economic advantage over livestock enterprises as a result of government payments; (d) the acquisition of foundation livestock; and (e) the acquisition of additional acreage for farmers whose operating units are too small to provide a reasonable standard of living. These and similar endeavors would aid materially in establishing and maintaining livestock enterprises. They would attain more conservation of soil than has the continuous cultivation of unproductive cropland, and, judging by the experience of farmers interviewed in this study, they would help to stabilize agriculture in the area.

Table 53.- Acreage estimated as being adapted to wheat and that seeded in 1930 and 1931, by counties, southwestern Kansas ^{1/}

| County | Estimates of acreage adapted to wheat | Acreage seeded to wheat | | | |
|--------------------|---|-------------------------|------------------------------|-------|------------------------------|
| | | 1930 | | 1931 | |
| | | Acres | Percent- | Acres | Percent- |
| | | | age of acreage adapted | | age of acreage adapted |
| | (000) | (000) | Percent | (000) | Percent |
| Barber | 144 | 161 | 112 | 149 | 103 |
| Clark | 168 | 179 | 107 | 179 | 107 |
| Comanche | 95 | 155 | 163 | 149 | 157 |
| Finney | 279 | 229 | 82 | 290 | 104 |
| Ford | 389 | 436 | 112 | 438 | 113 |
| Gove | 224 | 201 | 90 | 204 | 91 |
| Grant | 155 | 220 | 142 | 218 | 141 |
| Gray | 290 | 336 | 116 | 352 | 121 |
| Greeley | 190 | 96 | 51 | 162 | 85 |
| Hamilton | 174 | 70 | 40 | 169 | 97 |
| Haskell | 243 | 260 | 107 | 254 | 105 |
| Hodgeman | 212 | 243 | 115 | 245 | 116 |
| Kearney | 164 | 88 | 54 | 154 | 94 |
| Lane | 406 | 193 | 48 | 213 | 52 |
| Logan | 183 | 89 | 49 | 109 | 60 |
| Meade | 259 | 288 | 111 | 286 | 110 |
| Morton | 204 | 149 | 73 | 172 | 84 |
| Ness | 307 | 305 | 99 | 303 | 99 |
| Scott | 148 | 135 | 91 | 181 | 122 |
| Seward | 102 | 184 | 180 | 198 | 194 |
| Stanton | 252 | 195 | 77 | 247 | 98 |
| Stevens | 136 | 182 | 134 | 185 | 136 |
| Trego | 222 | 228 | 103 | 221 | 100 |
| Wallace | 84 | 33 | 39 | 51 | 61 |
| Wichita | 165 | 76 | 46 | 144 | 87 |
| All 25 counties | 5,195 | 4,731 | 91 | 5,273 | 102 |

^{1/} Sources: Unpublished data from Regional Agricultural Adjustment Project on file at Kansas State College, and unpublished reports of Kansas State Board of Agriculture.

Table 54.- Percentage of farms, by size, reported on assessors' rolls in 4 cash-grain townships, 2 general-farm townships, and 3 livestock-or-ranching townships, southwestern Kansas, March 1, 1929-38

| Year | Size of farms | | | | | | | | |
|--------------------|---------------|---------|---------|---------|---------|---------|---------|-----------|--------------|
| | Less than: | 100- | 175- | 260- | 500- | 750- | 1,000- | 5,000 or: | Not given |
| | 100 | 174 | 259 | 499 | 749 | 999 | 4,999 | more | |
| | acres | acres | acres | acres | acres | acres | acres | acres | |
| Percent | Percent | Percent | Percent | Percent | Percent | Percent | Percent | | |
| 4 cash-grain twps. | | | | | | | | | |
| 1929 | 1.3 | 5.0 | 5.0 | 35.2 | 21.2 | 18.5 | 13.2 | .3 | .3 |
| 1930 | 2.6 | 4.2 | 3.1 | 39.1 | 19.5 | 15.9 | 14.1 | .5 | 1.0 |
| 1931 | 1.3 | 4.4 | 2.8 | 36.3 | 20.2 | 20.2 | 12.7 | .3 | 1.8 |
| 1932 | 1.3 | 4.9 | 3.4 | 36.7 | 18.3 | 20.2 | 12.9 | .5 | 1.8 |
| 1933 | 2.5 | 4.3 | 3.5 | 32.7 | 16.9 | 22.7 | 15.1 | .3 | 2.0 |
| 1934 | 1.7 | 11.4 | 4.8 | 34.8 | 17.6 | 16.1 | 10.3 | .2 | 3.1 |
| 1935 | 4.1 | 9.8 | 6.4 | 33.3 | 16.0 | 16.0 | 9.4 | -- | 5.0 |
| 1936 | 2.5 | 8.1 | 2.2 | 30.1 | 18.3 | 21.4 | 13.4 | .9 | 3.1 |
| 1937 | 4.5 | 9.2 | 2.8 | 35.8 | 17.4 | 17.4 | 11.3 | -- | 1.6 |
| 1938 | 3.6 | 10.6 | 2.1 | 32.4 | 15.4 | 16.0 | 17.3 | 1.0 | 1.6 |
| 2 gen. twps. | | | | | | | | | |
| 1929 | -- | 10.3 | 2.2 | 25.7 | 16.2 | 22.1 | 22.1 | .7 | .7 |
| 1930 | .7 | 7.9 | 2.6 | 23.2 | 23.9 | 17.2 | 22.5 | -- | 2.0 |
| 1931 | -- | 9.3 | .7 | 19.3 | 21.4 | 26.4 | 22.2 | -- | .7 |
| 1932 | 3.1 | 8.1 | 2.5 | 17.5 | 19.4 | 23.1 | 25.0 | -- | 1.3 |
| 1933 | 1.2 | 9.9 | 3.7 | 19.1 | 16.1 | 22.2 | 22.9 | -- | 4.9 |
| 1934 | 1.9 | 15.2 | 3.3 | 24.3 | 16.2 | 18.6 | 16.2 | 1.0 | 3.3 |
| 1935 | .6 | 17.1 | 1.7 | 26.7 | 15.3 | 23.3 | 12.5 | 1.7 | 1.1 |
| 1936 | 2.1 | 17.8 | 3.2 | 26.7 | 17.8 | 19.9 | 12.0 | .5 | -- |
| 1937 | 2.1 | 16.2 | 2.6 | 27.8 | 15.7 | 17.3 | 16.8 | .5 | 1.0 |
| 1938 | 2.4 | 20.2 | 1.8 | 22.0 | 14.9 | 19.0 | 18.5 | 1.2 | -- |
| 3 ranch twps. | | | | | | | | | |
| 1929 | 1.7 | 12.9 | 4.3 | 33.6 | 13.0 | 8.6 | 15.5 | 2.6 | 7.8 |
| 1930 | 3.7 | 12.8 | 3.7 | 36.7 | 15.6 | 9.2 | 11.9 | 3.7 | 2.7 |
| 1931 | 3.3 | 13.8 | 3.3 | 32.5 | 8.9 | 9.8 | 14.6 | 2.4 | 11.4 |
| 1932 | 4.7 | 11.7 | 3.1 | 32.8 | 10.9 | 6.3 | 17.2 | 1.6 | 11.7 |
| 1933 | 3.5 | 10.3 | 4.3 | 37.9 | 8.6 | 12.9 | 14.7 | 4.3 | 3.5 |
| 1934 | 3.2 | 13.5 | 2.4 | 32.5 | 18.3 | 8.7 | 11.9 | 3.2 | 6.3 |
| 1935 | 1.8 | 11.0 | .9 | 35.8 | 12.8 | 12.9 | 16.5 | 3.7 | 4.6 |
| 1936 | 3.7 | 14.7 | .9 | 37.6 | 10.1 | 11.0 | 11.9 | 3.7 | 6.4 |
| 1937 | 3.0 | 11.9 | 4.9 | 34.6 | 9.9 | 11.9 | 16.8 | 4.0 | 3.0 |
| 1938 | 2.4 | 10.7 | 1.2 | 30.9 | 11.9 | 11.9 | 22.6 | 4.8 | 3.6 |
| Total | | | | | | | | | |
| 9 twps. | | | | | | | | | |
| 1929 | 1.1 | 7.6 | 4.3 | 32.8 | 18.6 | 17.4 | 15.6 | .8 | 1.8 |
| 1930 | 2.3 | 6.5 | 3.1 | 34.9 | 19.9 | 15.1 | 15.7 | .9 | 1.6 |
| 1931 | 1.4 | 7.2 | 2.5 | 31.9 | 18.3 | 19.6 | 15.1 | .6 | 3.4 |
| 1932 | 2.4 | 7.0 | 3.1 | 31.4 | 17.2 | 18.2 | 16.6 | .6 | 3.5 |
| 1933 | 2.4 | 6.6 | 3.7 | 30.4 | 15.3 | 20.9 | 16.9 | .9 | 2.9 |
| 1934 | 2.0 | 12.7 | 4.0 | 31.7 | 17.3 | 15.6 | 12.1 | .9 | 3.7 |
| 1935 | 2.9 | 11.7 | 4.4 | 32.1 | 15.4 | 17.3 | 11.2 | 1.0 | 4.0 |
| 1936 | 2.5 | 12.2 | 2.3 | 30.4 | 16.7 | 19.1 | 12.7 | 1.3 | 2.7 |
| 1937 | 3.6 | 11.4 | 3.1 | 33.5 | 15.9 | 16.6 | 13.5 | .7 | 1.7 |
| 1938 | 3.6 | 10.6 | 2.1 | 32.4 | 15.4 | 16.0 | 17.3 | 1.0 | 1.6 |

Table 55.- Use of land operated by 85 identical farmers, by number of crop acres, southwestern Kansas, 1931-37 1/

| Number of crop acres operated | Number of farms | Acreage per farm | | | | | Total |
|----------------------------------|-----------------------|------------------|-----------------|--------------------|--------------------------|---------|-------|
| | | Cropland | Native grass | Former cropland | Waste and: farmstead: | | |
| | | Acres | Acres | Acres | Acres | Acres | |
| Less than 300 acres: | | | | | | | |
| 1931 | 9 | 351.9 | 248.3 | -- | 4.8 | 605.0 | |
| 1932 | 9 | 241.2 | 292.1 | -- | 16.1 | 549.4 | |
| 1933 | 9 | 224.9 | 339.9 | -- | 15.8 | 610.6 | |
| 1934 | 9 | 220.6 | 354.7 | -- | 15.4 | 590.7 | |
| 1935 | 9 | 232.3 | 355.6 | -- | 15.0 | 602.9 | |
| 1936 | 9 | 212.1 | 473.1 | -- | 15.5 | 700.7 | |
| 1937 | 9 | 225.4 | 477.6 | -- | 16.0 | 719.0 | |
| 300-499 acres | | | | | | | |
| 1931 | 21 | 470.5 | 194.5 | -- | 10.2 | 675.2 | |
| 1932 | 21 | 460.4 | 185.9 | 1.0 | 17.8 | 665.1 | |
| 1933 | 21 | 445.0 | 189.6 | 5.2 | 17.7 | 657.5 | |
| 1934 | 21 | 423.9 | 189.6 | 5.2 | 17.4 | 636.1 | |
| 1935 | 21 | 430.2 | 189.6 | 5.2 | 17.3 | 642.3 | |
| 1936 | 21 | 432.5 | 192.9 | 5.2 | 17.4 | 648.0 | |
| 1937 | 21 | 414.6 | 191.0 | 7.1 | 17.5 | 630.2 | |
| 500-699 acres | | | | | | | |
| 1931 | 20 | 607.8 | 180.8 | -- | 14.0 | 802.6 | |
| 1932 | 20 | 621.3 | 185.3 | -- | 22.4 | 829.0 | |
| 1933 | 20 | 625.1 | 150.3 | -- | 22.4 | 797.8 | |
| 1934 | 20 | 617.2 | 150.3 | -- | 22.3 | 789.8 | |
| 1935 | 20 | 590.0 | 147.0 | .5 | 22.3 | 759.8 | |
| 1936 | 20 | 584.6 | 148.6 | .5 | 22.1 | 755.8 | |
| 1937 | 20 | 584.7 | 146.4 | 1.8 | 22.4 | 755.3 | |
| 700-899 acres | | | | | | | |
| 1931 | 12 | 606.6 | 222.5 | -- | 8.6 | 837.7 | |
| 1932 | 12 | 701.7 | 225.4 | -- | 21.4 | 948.5 | |
| 1933 | 12 | 713.7 | 230.0 | -- | 22.8 | 966.5 | |
| 1934 | 12 | 698.4 | 240.9 | -- | 19.3 | 958.6 | |
| 1935 | 12 | 809.0 | 258.5 | -- | 22.7 | 1,090.2 | |
| 1936 | 12 | 796.1 | 285.2 | -- | 22.3 | 1,103.6 | |
| 1937 | 12 | 809.8 | 278.1 | -- | 22.8 | 1,110.7 | |
| 900 acres and over | | | | | | | |
| 1931 | 23 | 1,153.9 | 210.6 | -- | 35.3 | 1,399.8 | |
| 1932 | 23 | 1,244.3 | 168.8 | -- | 46.3 | 1,459.4 | |
| 1933 | 23 | 1,312.8 | 163.1 | -- | 43.8 | 1,519.7 | |
| 1934 | 23 | 1,264.4 | 163.6 | -- | 30.7 | 1,458.7 | |
| 1935 | 23 | 1,294.6 | 189.9 | -- | 44.0 | 1,528.5 | |
| 1936 | 23 | 1,389.0 | 180.9 | 5.3 | 36.6 | 1,611.8 | |
| 1937 | 23 | 1,410.6 | 185.4 | 5.3 | 39.6 | 1,640.9 | |
| All sizes | | | | | | | |
| 1931 | 85 | 694.3 | 205.3 | -- | 17.1 | 916.7 | |
| 1932 | 85 | 721.2 | 198.0 | .3 | 26.9 | 946.4 | |
| 1933 | 85 | 736.8 | 198.0 | 1.3 | 26.4 | 962.5 | |
| 1934 | 85 | 714.0 | 198.1 | 1.3 | 22.2 | 935.6 | |
| 1935 | 85 | 734.2 | 207.0 | 1.4 | 26.2 | 968.8 | |
| 1936 | 85 | 755.1 | 221.9 | 2.8 | 24.2 | 1,004.0 | |
| 1937 | 85 | 759.9 | 221.7 | 3.6 | 25.2 | 1,010.4 | |

1/ Only 85 farmers reporting land use from 1931 to 1937.

Table 56.- Average number of crop acres per farm and percent of cropland devoted to various uses by 71 identical farmers and by 19 farmers having ceased farming, by number of crop acres farmed, southwestern Kansas, 1937 and 1931 ^{1/}

| | | Percentage of cropland devoted to | | | | | | | | | | | | | | | |
|----------------------------------|-------------------|-----------------------------------|------------|--------------|------------|------------|------------|-------------|------------|------------|------------|------------|------------|------------|------------|------------|------|
| | | Crop : | | Other : | | Other:For- | | Sudan : | | Al- | | Other : | | Rota.: | | Summer: | |
| Number of crop acres operated | Farms : | acres : | | Wheat:small: | | Corn : | | Milo:grain: | | Kafir: | | Sorgho: | | Sorgho: | | falfa: | |
| | per : | farm : | per : | farm : | per : | farm : | per : | farm : | per : | farm : | per : | farm : | per : | farm : | per : | farm : | |
| | Num-ber : | Acres : | Per-cent : | Per-cent : | Per-cent : | Per-cent : | Per-cent : | Per-cent : | Per-cent : | Per-cent : | Per-cent : | Per-cent : | Per-cent : | Per-cent : | Per-cent : | Per-cent : | |
| | Identical farmers | | | | | | | | | | | | | | | | |
| | 1937 | | | | | | | | | | | | | | | | |
| Less than 300 A. | 6 | 214.7 | 43.9 | 5.1 | -- | 5.6 | 8.6 | -- | 11.6 | -- | -- | -- | -- | -- | -- | 11.7 | 13.5 |
| 300-499 acres | 18 | 413.9 | 59.2 | 3.1 | .5 | 6.5 | 2.9 | -- | 5.0 | 1.0 | 1.3 | -- | -- | .2 | 15.8 | 4.5 | |
| 500-699 acres | 16 | 584.0 | 68.5 | 1.4 | .3 | 2.2 | 3.1 | .6 | 4.8 | .4 | .2 | -- | -- | -- | 16.5 | 2.0 | |
| 700-899 acres | 9 | 806.2 | 58.4 | .9 | .1 | 4.2 | 6.0 | .7 | 7.5 | .1 | 1.6 | -- | -- | .3 | 12.8 | 7.4 | |
| 900 A. and over | 22 | 1396.8 | 59.3 | .5 | .4 | 1.1 | 12.1 | .1 | 3.1 | .1 | -- | -- | 1.2 | 1.5 | 16.2 | 4.4 | |
| All sizes | 71 | 789.7 | 60.4 | 1.1 | .3 | 2.5 | 8.5 | .2 | 4.4 | .3 | .4 | .7 | .9 | .9 | 15.7 | 4.6 | |
| 1931 | | | | | | | | | | | | | | | | | |
| Less than 300 A. | 6 | 326.5 | 53.3 | 1.1 | 12.4 | 1.9 | .3 | 5.6 | 7.8 | 9.9 | 1.3 | 2.7 | 1.3 | 2.4 | -- | -- | |
| 300-499 acres | 18 | 459.4 | 70.3 | 4.9 | 7.6 | 4.9 | 1.2 | 1.2 | 3.1 | 2.1 | 1.1 | 1.8 | -- | 1.8 | -- | -- | |
| 500-699 acres | 16 | 622.3 | 79.3 | 1.6 | 5.9 | 2.0 | .1 | 1.7 | .8 | .9 | .7 | .2 | -- | 6.8 | -- | -- | |
| 700-899 acres | 9 | 647.0 | 70.9 | 1.4 | 5.3 | 3.9 | 3.2 | 3.3 | 3.2 | 1.3 | 3.1 | .2 | .4 | 3.8 | -- | -- | |
| 900 A. and over | 22 | 1166.9 | 78.8 | 1.0 | 7.4 | 1.6 | 2.0 | .8 | 1.7 | .3 | -- | .3 | .2 | 5.9 | -- | -- | |
| All sizes | 71 | 727.9 | 75.6 | 1.8 | 7.0 | 2.5 | 1.6 | 1.5 | 2.2 | 1.2 | .7 | .6 | .2 | 5.1 | -- | -- | |
| Farmers having ceased farming | | | | | | | | | | | | | | | | | |
| 1931 | | | | | | | | | | | | | | | | | |
| Less than 300 A. | 4 | 269.5 | 45.1 | 2.8 | 26.0 | 18.2 | .4 | 2.1 | -- | 4.5 | -- | .9 | -- | -- | -- | -- | |
| 300-499 acres | 2 | 363.0 | 85.4 | -- | 1.6 | 5.8 | 2.9 | 2.2 | 2.1 | -- | -- | -- | -- | -- | -- | -- | |
| 500-699 acres | 5 | 626.4 | 78.5 | 2.5 | 2.1 | 4.1 | 2.9 | .2 | -- | .2 | .2 | .4 | 1.8 | 7.1 | -- | -- | |
| 700-899 acres | 2 | 828.0 | 70.6 | 1.2 | 3.0 | 10.9 | 3.9 | -- | 1.2 | -- | -- | 7.4 | 1.8 | -- | -- | -- | |
| 900 A. and over | 6 | 1148.1 | 73.7 | .8 | 6.5 | 1.9 | 1.5 | 2.2 | 1.3 | .3 | -- | .7 | .2 | 10.9 | -- | -- | |
| All sizes | 19 | 709.5 | 72.8 | 1.4 | 6.4 | 5.0 | 2.1 | 1.5 | .9 | .5 | .1 | 1.4 | .7 | 7.2 | -- | -- | |

^{1/} Only 71 farmers reporting use of cropland in both 1937 and 1931.

Table 57.- Average number of crop acres per farm reported by 71 identical farmers and by 19 farmers who ceased farming, and percentage of farmers reporting various uses, by number of crop acres farmed, southwestern Kansas, 1937 and 1931 1/2

| Number of crop acres operated | Number of farms | Crop acres per farm | Percentage of farmers reporting | | | | | | | |
|-------------------------------|-----------------|---------------------|---------------------------------|--------------------|---------|---------|---------|----------------------|---------|---------|
| | | | Wheat | Other small grains | Corn | Kafir | Milo | Other grain sorghums | Percent | Percent |
| | | Acres | Percent | Percent | Percent | Percent | Percent | Percent | Percent | Percent |
| Identical farmers 1937 | | | | | | | | | | |
| Less than 300 A. | 6 | 214.7 | 83.3 | 33.3 | -- | 33.3 | 33.3 | 33.3 | -- | -- |
| 300-499 acres | 18 | 413.9 | 100.0 | 50.0 | 11.1 | 66.7 | 27.8 | 27.8 | -- | -- |
| 500-699 acres | 16 | 584.0 | 100.0 | 31.2 | 6.2 | 37.5 | 31.2 | 31.2 | 12.5 | 12.5 |
| 700-899 acres | 9 | 806.2 | 100.0 | 33.3 | 11.1 | 55.6 | 77.8 | 77.8 | 22.2 | 22.2 |
| 900 acres and over: | 22 | 1,396.8 | 100.0 | 18.2 | 18.2 | 27.3 | 68.2 | 68.2 | 36.4 | 36.4 |
| All sizes | 71 | 789.7 | 98.6 | 32.4 | 11.3 | 43.7 | 47.9 | 47.9 | 16.9 | 16.9 |
| 1931 | | | | | | | | | | |
| Less than 300 A. | 6 | 326.5 | 100.0 | 16.7 | 50.0 | 50.0 | 16.7 | 16.7 | 33.3 | 33.3 |
| 300-499 acres | 18 | 459.4 | 100.0 | 50.0 | 61.1 | 66.7 | 16.7 | 16.7 | 27.8 | 27.8 |
| 500-699 acres | 16 | 622.3 | 100.0 | 50.0 | 75.0 | 68.8 | 6.2 | 6.2 | 43.8 | 43.8 |
| 700-899 acres | 9 | 647.0 | 100.0 | 33.3 | 44.4 | 55.6 | 44.4 | 44.4 | 44.4 | 44.4 |
| 900 acres and over: | 22 | 1,166.9 | 100.0 | 18.2 | 54.5 | 22.7 | 18.2 | 18.2 | 18.2 | 18.2 |
| All sizes | 71 | 727.9 | 100.0 | 35.2 | 59.2 | 50.7 | 18.3 | 18.3 | 31.0 | 31.0 |
| Farmers having ceased farming | | | | | | | | | | |
| 1931 | | | | | | | | | | |
| Less than 300 A. | 4 | 269.5 | 75.0 | 25.0 | 100.0 | 100.0 | 25.0 | 25.0 | 25.0 | 25.0 |
| 300-499 acres | 2 | 363.0 | 100.0 | -- | 50.0 | 50.0 | 50.0 | 50.0 | 100.0 | 100.0 |
| 500-699 acres | 5 | 626.4 | 100.0 | 60.0 | 60.0 | 40.0 | 60.0 | 60.0 | 20.0 | 20.0 |
| 700-899 acres | 2 | 828.0 | 100.0 | 50.0 | 100.0 | 50.0 | 50.0 | 50.0 | -- | -- |
| 900 acres and over: | 6 | 1,148.1 | 100.0 | 16.7 | 66.7 | 33.3 | 50.0 | 50.0 | 33.3 | 33.3 |
| All sizes | 19 | 709.5 | 94.7 | 31.6 | 73.7 | 52.6 | 47.4 | 47.4 | 31.6 | 31.6 |

- Continued -

Table 57.- Average number of crop acres per farm reported by 71 identical farmers and by 19 farmers who ceased farming, and percentage of farmers reporting various uses, by number of crop acres farmed, southwestern Kansas, 1937 and 1931 1/- Continued

| Number of crop acres operated | Number of farms | Crop acres per farm | Percentage of farmers reporting | | | | | | | | | |
|------------------------------------|-----------------|---------------------|---------------------------------|-----------|---------|-------------|------------------|---------------|---------|--|--|--|
| | | | Forage sorghums | Sudan hay | Alfalfa | Other crops | Rotation pasture | Summer fallow | Idle | | | |
| | | Acres | Percent | Percent | Percent | Percent | Percent | Percent | Percent | | | |
| Identical farmers 1937 | | | | | | | | | | | | |
| Less than 300 A. | 6 | 214.7 | 33.3 | -- | -- | -- | -- | 66.7 | 33.3 | | | |
| 300-499 acres | 18 | 413.9 | 77.8 | 33.3 | 5.6 | -- | 11.1 | 83.3 | 38.9 | | | |
| 500-699 acres | 16 | 584.0 | 68.8 | 12.5 | 12.5 | -- | -- | 100.0 | 37.5 | | | |
| 700-899 acres | 9 | 806.2 | 88.9 | 11.1 | 22.2 | -- | 22.2 | 77.8 | 66.7 | | | |
| 900 acres and over: | 22 | 1,396.8 | 40.9 | -- | 4.5 | 4.5 | 45.5 | 90.9 | 45.5 | | | |
| All sizes | 71 | 789.7 | 62.0 | 12.7 | 8.5 | 1.4 | 19.7 | 87.3 | 43.7 | | | |
| 1931 | | | | | | | | | | | | |
| Less than 300 A. | 6 | 326.5 | 66.7 | 50.0 | 16.7 | 50.0 | 16.7 | 33.3 | -- | | | |
| 300-499 acres | 18 | 459.4 | 61.1 | 44.4 | 27.8 | 27.8 | -- | 27.8 | -- | | | |
| 500-699 acres | 16 | 622.3 | 43.8 | 62.5 | 18.8 | 12.5 | -- | 50.0 | -- | | | |
| 700-899 acres | 9 | 647.0 | 44.4 | 44.4 | 33.3 | 11.1 | 11.1 | 33.3 | -- | | | |
| 900 acres and over: | 22 | 1,166.9 | 40.9 | 36.4 | 4.5 | 9.1 | 13.6 | 40.9 | -- | | | |
| All sizes | 71 | 727.9 | 49.3 | 46.5 | 18.3 | 18.3 | 7.0 | 38.0 | -- | | | |
| Farmers having ceased farming 1931 | | | | | | | | | | | | |
| Less than 300 A. | 4 | 269.5 | -- | 50.0 | -- | 25.0 | -- | -- | -- | | | |
| 300-499 acres | 2 | 363.0 | 100.0 | -- | -- | -- | -- | -- | -- | | | |
| 500-699 acres | 5 | 626.4 | -- | 20.0 | 20.0 | 20.0 | 20.0 | 60.0 | -- | | | |
| 700-899 acres | 2 | 828.0 | 50.0 | -- | -- | 50.0 | 50.0 | -- | -- | | | |
| 900 acres and over: | 6 | 1,148.1 | 50.0 | 33.3 | -- | 16.7 | 66.7 | 16.7 | -- | | | |
| All sizes | 19 | 709.5 | 31.6 | 26.3 | 5.3 | 21.1 | 15.8 | 36.8 | -- | | | |

1/ Only 71 farmers reporting use of cropland in both 1937 and 1931.

Table 58.-- Numbers of livestock per farm reported by 65 identical farmers and by 19 farmers who have ceased farming, by number of crop acres operated, southwestern Kansas, October 1, 1937, and January 1, 1931 1/

| Number of crop acres operated | Number: of farms | Average numbers of livestock per farm | | | | | | | | | | | |
|-------------------------------------|------------------------|---------------------------------------|---------------|-----------------|-----------------|---------------|---------------|------------|---------------|------------|------------|------------|--|
| | | Milk cows | Stock cows | Other cattle | Total cattle | Other sows | Brood sows | hogs | Total hogs | Horses | Sheep | Poultry | |
| | | : Number : | : Number : | : Number : | : Number : | : Number : | : Number : | : Number : | : Number : | : Number : | : Number : | : Number : | |
| Identical farmers | | : | : | : | : | : | : | : | : | : | : | : | |
| 1937 | | : | : | : | : | : | : | : | : | : | : | : | |
| Less than 300 acres: | 5 | 3.4 | 12.0 | 14.0 | 29.4 | 0.4 | 0.4 | -- | 0.4 | 1.0 | 0.8 | 52.8 | |
| 300 - 499 acres | 17 | 4.6 | 6.8 | 9.5 | 20.9 | .8 | 4.3 | 3.5 | 4.3 | 2.6 | .8 | 92.5 | |
| 500 - 699 acres | 13 | 4.0 | 3.9 | 8.9 | 16.8 | .5 | 1.2 | .7 | 1.2 | 1.2 | -- | 150.4 | |
| 700 - 899 acres | 9 | 8.2 | 5.4 | 17.3 | 30.9 | .4 | 3.3 | 2.9 | 3.3 | 2.0 | -- | 181.9 | |
| 900 acres and over | 21 | 5.4 | 6.5 | 19.6 | 31.5 | .6 | 4.6 | 4.0 | 4.6 | 1.1 | 1.0 | 113.4 | |
| All sizes | 65 | 5.2 | 6.3 | 14.0 | 25.5 | .6 | 3.4 | 2.8 | 3.4 | 1.6 | .5 | 120.2 | |
| 1931 | | : | : | : | : | : | : | : | : | : | : | : | |
| Less than 300 acres: | 5 | 2.2 | 17.8 | 12.8 | 32.8 | 2.4 | 9.6 | 7.2 | 9.6 | 4.0 | -- | 194.0 | |
| 300 - 499 acres | 17 | 4.3 | 8.8 | 15.1 | 28.2 | 2.2 | 15.6 | 13.4 | 15.6 | 5.9 | 4.1 | 135.7 | |
| 500 - 699 acres | 13 | 4.2 | 4.3 | 18.7 | 27.2 | 2.4 | 9.8 | 7.4 | 9.8 | 3.2 | -- | 159.9 | |
| 700 - 899 acres | 9 | 3.1 | 4.7 | 43.1 | 50.9 | .9 | 6.7 | 5.8 | 6.7 | 3.9 | -- | 185.6 | |
| 900 acres and over | 21 | 4.2 | 3.0 | 33.7 | 40.9 | 1.1 | 8.7 | 7.6 | 8.7 | 2.3 | 6.4 | 111.8 | |
| All sizes | 65 | 3.9 | 6.2 | 25.5 | 35.6 | 1.7 | 10.5 | 8.8 | 10.5 | 3.8 | 3.2 | 144.2 | |
| Farmers having ceased farming | | : | : | : | : | : | : | : | : | : | : | : | |
| 1931 | | : | : | : | : | : | : | : | : | : | : | : | |
| Less than 300 acres: | 4 | 4.2 | 2.0 | 5.3 | 11.5 | 3.2 | 18.9 | 15.7 | 18.9 | 4.2 | -- | 92.5 | |
| 300 - 499 acres | 2 | 10.5 | -- | 18.5 | 29.0 | 1.5 | 10.5 | 9.0 | 10.5 | 9.5 | -- | 175.0 | |
| 500 - 699 acres | 5 | 4.2 | 2.6 | 10.4 | 17.2 | 1.0 | 4.4 | 3.4 | 4.4 | 1.8 | 17.4 | 144.8 | |
| 700 - 899 acres | 2 | 2.5 | 7.5 | 30.0 | 40.0 | 5.5 | 15.0 | 9.5 | 15.0 | 6.0 | -- | 128.5 | |
| 900 acres and over | 6 | 4.8 | 3.7 | 12.0 | 20.5 | 1.7 | 8.5 | 6.8 | 8.5 | 5.2 | -- | 150.2 | |
| All sizes | 19 | 4.9 | 3.1 | 12.7 | 20.7 | 2.2 | 10.5 | 8.3 | 10.5 | 4.6 | 4.6 | 136.9 | |

1/ Only 65 farmers reporting livestock numbers in both 1937 and 1931.

Table 59.- Percentage of 65 identical farmers reporting different numbers of livestock by number of crop acres operated, southwestern Kansas, October 1, 1937 and January 1, 1931 1/

| | | Percentage of farmers reporting different numbers of livestock | | | | | | | | | | | |
|----------------------|--|--|----|----|--------------------------------|----|----|------------------|----|----|------------------|----|----|
| Numbers of livestock | | 5 farms with : 17 farms with : 13 farms with : | | | 9 farms with : 21 farms with : | | | 700 - 899 : | | | 900 crop : | | |
| | | less than : | | | 300 - 499 : | | | 500 - 699 : | | | 700 - 899 : | | |
| | | 300 crop acres : | | | crop acres : | | | crop acres : | | | crop acres : | | |
| | | 1937 : 1931 : | | | 1937 : 1931 : | | | 1937 : 1931 : | | | 1937 : 1931 : | | |
| | | Percent:Percent: | | | Percent:Percent: | | | Percent:Percent: | | | Percent:Percent: | | |
| Cattle | | | | | | | | | | | | | |
| 0 | | 20 | 20 | 8 | 23 | 31 | 8 | 23 | 31 | 8 | 23 | 31 | 8 |
| 1 - 5 | | 20 | 20 | 6 | 35 | 24 | 6 | 35 | 24 | 6 | 35 | 24 | 6 |
| 6 - 10 | | 40 | 20 | 29 | 29 | 15 | 15 | 29 | 15 | 15 | 29 | 15 | 15 |
| 11 - 20 | | 20 | 20 | 12 | 12 | 17 | 12 | 12 | 17 | 12 | 12 | 17 | 12 |
| 21 - 30 | | -- | -- | 6 | 6 | 12 | 6 | 6 | 12 | 6 | 6 | 12 | 6 |
| 31 - 40 | | -- | -- | 6 | 6 | 17 | 6 | 6 | 17 | 6 | 6 | 17 | 6 |
| 41 - 50 | | -- | -- | -- | -- | 12 | -- | -- | 12 | -- | -- | 12 | -- |
| 51 - 100 | | -- | -- | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| 101 or more | | 20 | 20 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Brood sows | | | | | | | | | | | | | |
| 0 | | 80 | 60 | 85 | 76 | 47 | 85 | 46 | 85 | 76 | 47 | 85 | 46 |
| 1 - 2 | | 20 | -- | -- | 12 | 12 | -- | 8 | 12 | 12 | -- | -- | -- |
| 3 - 4 | | -- | 20 | 15 | 6 | 23 | 15 | 23 | 15 | 6 | 23 | 15 | 6 |
| 5 - 6 | | -- | -- | -- | -- | 12 | -- | 15 | -- | -- | -- | -- | -- |
| 7 - 8 | | -- | 20 | -- | 6 | -- | -- | 8 | -- | -- | -- | -- | -- |
| 9 - 10 | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 11 or more | | -- | -- | -- | -- | 6 | -- | -- | -- | -- | -- | -- | -- |

- Continued -

Table 59.- Percentage of 65 identical farmers reporting different numbers of livestock by number of crop acres operated, southwestern Kansas, October 1, 1937 and January 1, 1931 1/ - Continued

| Numbers of livestock | Percentage of farmers reporting different numbers of livestock | | | | | | | | | | | |
|----------------------|--|--------------------------------|--------------------------------|-------------------------------|-------------------------------|--------------|------------------|------------------|------------------|------------------|------------------|------------------|
| | 5 farms with : less than : | 17 farms with : 300 - 499 : | 13 farms with : 500 - 699 : | 9 farms with : 700 - 899 : | 21 farms with : 900 crop : | All 65 farms | | | | | | |
| | 300 crop acres : | crop acres : | crop acres : | crop acres : | acres and over : | | 1937 : 1931 | 1937 : 1931 | 1937 : 1931 | 1937 : 1931 | 1937 : 1931 | 1937 : 1931 |
| | Percent:Percent: | Percent:Percent: | Percent:Percent: | Percent:Percent: | Percent:Percent: | | Percent:Percent: | Percent:Percent: | Percent:Percent: | Percent:Percent: | Percent:Percent: | Percent:Percent: |
| Poultry | : | : | : | : | : | : | : | : | : | : | : | : |
| 0 | -- : 20 : | -- : 20 : | -- : 15 : | -- : 15 : | -- : 19 : | 8 | -- : 19 : | -- : 19 : | -- : 19 : | -- : 19 : | -- : 19 : | -- : 19 : |
| 1 - 49 | 40 : -- : | 24 : -- : | 12 : -- : | 12 : -- : | 23 : 9 : | 14 | 40 : 40 : | 24 : 24 : | 12 : 12 : | 12 : 12 : | 12 : 12 : | 12 : 12 : |
| 50 - 99 | 40 : 40 : | 24 : 24 : | 29 : 15 : | 15 : 15 : | 11 : 14 : | 21 | 40 : 20 : | 24 : 34 : | 29 : 17 : | 29 : 24 : | 29 : 24 : | 29 : 24 : |
| 100 - 149 | 20 : -- : | 34 : -- : | 17 : 23 : | 23 : 23 : | 34 : 11 : | 15 | 20 : -- : | 34 : 12 : | 29 : 12 : | 29 : 12 : | 29 : 12 : | 29 : 12 : |
| 150 - 199 | -- : -- : | 12 : 6 : | 24 : 8 : | 8 : 8 : | -- : 11 : | 17 | -- : -- : | 12 : 6 : | -- : 8 : | -- : 8 : | -- : 8 : | -- : 8 : |
| 200 - 249 | -- : -- : | 6 : -- : | 12 : 8 : | 8 : 8 : | 11 : 14 : | 8 | -- : -- : | 6 : -- : | 12 : 8 : | 11 : 14 : | 11 : 14 : | 11 : 14 : |
| 250 - 299 | -- : 20 : | -- : -- : | -- : -- : | -- : -- : | 22 : 5 : | 9 | -- : 20 : | -- : -- : | -- : -- : | 22 : 5 : | 22 : 5 : | 22 : 5 : |
| 300 - 349 | -- : -- : | -- : -- : | -- : -- : | -- : -- : | -- : 5 : | -- | -- : -- : | -- : -- : | -- : -- : | -- : 5 : | -- : 5 : | -- : 5 : |
| 350 - 399 | -- : -- : | -- : -- : | 6 : -- : | -- : -- : | -- : 5 : | 2 | -- : -- : | -- : -- : | 6 : -- : | -- : 5 : | -- : 5 : | -- : 5 : |
| 400 or more | -- : 20 : | -- : -- : | -- : 8 : | 8 : 8 : | 11 : -- : | 6 | -- : 20 : | -- : -- : | -- : 8 : | 11 : -- : | -- : 5 : | -- : 5 : |
| Horses | : | : | : | : | : | : | : | : | : | : | : | : |
| 0 | 60 : 20 : | 41 : -- : | -- : 62 : | 62 : 31 : | 22 : 57 : | 26 | 60 : 20 : | 41 : -- : | -- : 62 : | 22 : 57 : | -- : 48 : | -- : 48 : |
| 1 - 2 | 20 : 20 : | 23 : 12 : | 12 : 15 : | 15 : 15 : | 11 : 33 : | 20 | 20 : 20 : | 23 : 12 : | 12 : 15 : | 11 : 33 : | 33 : 33 : | 33 : 33 : |
| 3 - 4 | 20 : 20 : | 12 : 18 : | 18 : 23 : | 23 : 23 : | 21 : 45 : | 21 | 20 : 20 : | 12 : 18 : | 18 : 23 : | 21 : 45 : | 14 : 14 : | 14 : 14 : |
| 5 - 6 | -- : 20 : | 12 : 12 : | 40 : -- : | -- : 23 : | -- : 11 : | 19 | -- : 20 : | 12 : 12 : | 40 : -- : | -- : 23 : | -- : -- : | -- : -- : |
| 7 - 8 | -- : -- : | -- : 18 : | 18 : -- : | -- : -- : | 11 : -- : | 5 | -- : -- : | -- : 18 : | 18 : -- : | -- : -- : | -- : -- : | -- : -- : |
| 9 - 10 | -- : 20 : | 12 : 12 : | -- : -- : | -- : 8 : | -- : -- : | 3 | -- : 20 : | 12 : 12 : | -- : -- : | -- : 8 : | -- : -- : | -- : -- : |
| 11 or more | -- : -- : | -- : -- : | 12 : -- : | -- : -- : | 11 : 5 : | 6 | -- : -- : | -- : -- : | 12 : -- : | 11 : 5 : | -- : 5 : | -- : 5 : |

1/ Only 65 farmers reporting livestock numbers in both 1937 and 1931.

Table 60.- Methods of seedbed preparation in different rotations for 1937
wheat crop, by counties, southwestern Kansas 1/

| Method | County | Percentage of farmers using method in different rotations | | | | Percentage of acreage prepared | | | |
|----------------|--------------|---|---------------------------------|----------------------------|-----------------------|-----------------------------------|---------------------------------|----------------------------|-----------------------|
| | | Wheat on wheat | Wheat on summer fallow | Wheat on row crop | All rota- tions | Wheat on wheat | Wheat on summer fallow | Wheat on row crop | All rota- tions |
| | | Per- cent | Per- cent | Per- cent | Per- cent | Per- cent | Per- cent | Per- cent | Per- cent |
| One-way plow | Clark | 70.6 | 7.1 | 25.0 | 76.5 | 68.0 | 11.2 | 26.2 | 54.0 |
| | Finney | 38.5 | -- | 20.0 | 38.5 | 20.0 | -- | 6.9 | 16.4 |
| | Ford | 76.9 | 36.4 | -- | 78.6 | 70.8 | 28.6 | -- | 58.6 |
| | Grant | 41.7 | 36.4 | 14.3 | 46.2 | 22.2 | 26.5 | 3.4 | 20.4 |
| | Gray | 84.2 | 47.4 | 22.2 | 81.8 | 67.4 | 23.5 | 30.3 | 52.9 |
| | Meade | 66.7 | -- | 33.3 | 63.6 | 60.8 | -- | 35.9 | 37.6 |
| | All counties | 65.1 | 27.7 | 20.7 | 66.7 | 50.9 | 15.1 | 16.4 | 40.1 |
| Lister | Clark | 5.9 | 14.3 | -- | 17.6 | .2 | 4.3 | -- | 1.0 |
| | Finney | 84.6 | 66.7 | 20.0 | 84.6 | 51.7 | 23.3 | 27.5 | 45.9 |
| | Ford | 30.8 | 45.5 | -- | 50.0 | 8.3 | 24.0 | -- | 12.7 |
| | Grant | 25.0 | 36.4 | 14.3 | 38.5 | 14.9 | 27.8 | 2.7 | 15.3 |
| | Gray | 21.1 | 36.8 | 11.1 | 45.5 | 5.5 | 15.0 | 8.0 | 8.2 |
| | Meade | 11.1 | 28.6 | -- | 27.3 | 22.1 | 11.9 | -- | 17.7 |
| | All counties | 28.9 | 33.8 | 10.3 | 43.3 | 14.9 | 16.0 | 5.4 | 14.5 |
| Cultivator | Clark | 23.5 | 35.7 | 25.0 | 35.3 | 13.5 | 50.1 | 40.2 | 22.5 |
| | Finney | 23.1 | 100.0 | 20.0 | 38.5 | 24.7 | 76.7 | 17.4 | 32.5 |
| | Ford | -- | 45.5 | -- | 35.7 | -- | 31.6 | -- | 8.8 |
| | Grant | 8.3 | -- | 14.3 | 15.4 | 4.1 | -- | 5.1 | 3.6 |
| | Gray | 31.6 | 36.8 | -- | 45.5 | 12.6 | 28.9 | -- | 15.7 |
| | Meade | 33.3 | 57.1 | -- | 45.5 | 17.1 | 63.6 | -- | 33.9 |
| | All counties | 20.5 | 36.9 | 10.3 | 36.7 | 11.5 | 40.3 | 9.4 | 18.3 |
| Disc plow | Clark | 11.8 | 21.4 | -- | 29.4 | 2.5 | 14.4 | -- | 4.8 |
| | Finney | -- | -- | -- | -- | -- | -- | -- | -- |
| | Ford | -- | 9.1 | -- | 7.1 | -- | 4.1 | -- | 1.1 |
| | Grant | -- | -- | -- | -- | -- | -- | -- | -- |
| | Gray | -- | -- | -- | -- | -- | -- | -- | -- |
| | Meade | -- | 14.3 | -- | 9.1 | -- | 5.3 | -- | 2.0 |
| | All counties | 2.4 | 7.7 | -- | 7.8 | .5 | 4.2 | -- | 1.3 |
| Moldboard plow | Clark | -- | 35.7 | -- | 29.4 | -- | 20.0 | -- | 4.1 |
| | Finney | -- | -- | -- | -- | -- | -- | -- | -- |
| | Ford | 38.5 | 18.2 | -- | 50.0 | 20.9 | 11.7 | -- | 18.2 |
| | Grant | -- | -- | -- | -- | -- | -- | -- | -- |
| | Gray | -- | 31.6 | -- | 27.3 | -- | 23.5 | -- | 6.2 |
| | Meade | -- | 14.3 | -- | 9.1 | -- | 2.5 | -- | .9 |
| | All counties | 6.0 | 21.5 | -- | 21.1 | 2.3 | 11.0 | -- | 4.2 |

- Continued -

Table 60.- Methods of seedbed preparation in different rotations for 1937
wheat crop, by counties, southwestern Kansas 1/ - Continued

| Method | County | Percentage of farmers using method in different rotations | | | | Percentage of acreage prepared | | | |
|----------------|--------------|---|---------------------------------|----------------------------|-----------------------|-----------------------------------|---------------------------------|----------------------------|-----------------------|
| | | Wheat on wheat | Wheat on summer fallow | Wheat on row crop | All rota- tions | Wheat on wheat | Wheat on summer fallow | Wheat on row crop | All rota- tions |
| | | Per- cent | Per- cent | Per- cent | Per- cent | Per- cent | Per- cent | Per- cent | Per- cent |
| Disc | Clark | 5.9 | -- | 25.0 | 11.8 | 15.8 | -- | 7.5 | 12.1 |
| | Finney | -- | -- | -- | -- | -- | -- | -- | -- |
| | Ford | -- | -- | -- | -- | -- | -- | -- | -- |
| | Grant | 16.7 | 18.2 | 14.3 | 15.4 | 46.9 | 28.3 | 12.1 | 39.5 |
| | Gray | 15.8 | 10.5 | 11.1 | 18.2 | 10.9 | 8.5 | 16.9 | 10.7 |
| | Meade | -- | -- | -- | -- | -- | -- | -- | -- |
| | All counties | 7.2 | 6.2 | 10.3 | 8.9 | 16.0 | 6.2 | 10.9 | 13.3 |
| Chisel | Clark | -- | -- | -- | -- | -- | -- | -- | -- |
| | Finney | -- | -- | -- | -- | -- | -- | -- | -- |
| | Ford | -- | -- | -- | -- | -- | -- | -- | -- |
| | Grant | 16.7 | 18.2 | 14.3 | 15.4 | 11.9 | 17.4 | 60.5 | 19.1 |
| | Gray | 5.3 | 5.3 | 11.1 | 9.1 | 2.5 | .6 | 4.6 | 2.2 |
| | Meade | -- | 14.3 | -- | 9.1 | -- | 16.7 | -- | 6.2 |
| | All counties | 3.6 | 6.2 | 6.9 | 5.6 | 3.3 | 7.2 | 27.4 | 5.8 |
| Buster | Clark | -- | -- | 25.0 | 5.9 | -- | -- | 26.1 | 1.5 |
| | Finney | -- | -- | 20.0 | 7.7 | -- | -- | 35.8 | 1.7 |
| | Ford | -- | -- | -- | -- | -- | -- | -- | -- |
| | Grant | -- | -- | 14.3 | 7.7 | -- | -- | 10.8 | 1.4 |
| | Gray | -- | -- | 22.2 | 9.1 | -- | -- | 9.7 | .8 |
| | Meade | -- | -- | -- | -- | -- | -- | -- | -- |
| | All counties | -- | -- | 17.2 | 6.6 | -- | -- | 13.7 | .9 |
| No preparation | Clark | -- | -- | -- | -- | -- | -- | -- | -- |
| | Finney | 15.4 | -- | 20.0 | 23.1 | 3.6 | -- | 12.4 | 3.5 |
| | Ford | -- | -- | 100.0 | 7.1 | -- | -- | 100.0 | .6 |
| | Grant | -- | -- | 14.3 | 7.7 | -- | -- | 5.4 | .7 |
| | Gray | 10.5 | -- | 22.2 | 18.2 | 1.1 | -- | 30.5 | 3.3 |
| | Meade | -- | -- | 66.7 | 18.2 | -- | -- | 64.1 | 1.7 |
| | All counties | 4.8 | -- | 24.1 | 12.2 | .6 | -- | 16.8 | 1.6 |

1/ Methods grouped according to major implement used.

2/ Includes 40 acres on idle land and 17 acres on sod on one farm.

3/ Includes 78 acres on idle land on one farm.

Table 61.- Acreage owned, cropland operated, and average value of farm property, reported by 78 identical farmers by number of crop acres operated, southwestern Kansas, October 1, 1937 and January 1, 1931 ^{1/}

| Number of crop acres operated | Acres per farm | | Value of | | Value of working capital | | | | Total value | | Number of farms |
|----------------------------------|-------------------|--------------------------|--------------------------|---------|-------------------------------|-------------------------|-----------------------------|---------|-------------|--|-----------------------|
| | Total owned | Crop land operated | Land and buildings | | Machinery and livestock | Feed and supplies | Total working capital | | | | |
| | | | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars | | | |
| 1937 | | | | | | | | | | | |
| Less than 300 acres | 251 | 227 | 6,462 | 1,239 | 905 | 451 | 2,595 | 9,057 | 8 | | |
| 300-499 acres | 355 | 413 | 9,453 | 1,461 | 642 | 401 | 2,504 | 11,957 | 18 | | |
| 500-699 acres | 341 | 591 | 10,244 | 2,034 | 1,159 | 400 | 3,593 | 13,837 | 18 | | |
| 700-899 acres | 310 | 809 | 10,529 | 2,161 | 1,290 | 871 | 4,322 | 14,851 | 11 | | |
| 900 acres and over | 706 | 1,418 | 19,229 | 4,026 | 1,219 | 2,140 | 7,385 | 26,614 | 23 | | |
| All sizes | 438 | 787 | 12,363 | 2,425 | 1,050 | 985 | 4,460 | 16,823 | 78 | | |
| 1931 | | | | | | | | | | | |
| Less than 300 acres | 376 | 349 | 12,043 | 2,302 | 3,761 | 442 | 6,505 | 18,548 | 8 | | |
| 300-499 acres | 319 | 456 | 14,137 | 2,613 | 1,218 | 734 | 4,565 | 18,702 | 18 | | |
| 500-699 acres | 389 | 702 | 17,718 | 4,478 | 1,868 | 1,463 | 7,809 | 25,527 | 18 | | |
| 700-899 acres | 512 | 547 | 18,762 | 2,465 | 2,773 | 1,323 | 6,561 | 25,523 | 11 | | |
| 900 acres and over | 639 | 1,135 | 24,477 | 5,357 | 2,074 | 1,805 | 9,236 | 33,713 | 23 | | |
| All sizes | 463 | 715 | 18,450 | 3,800 | 2,100 | 1,271 | 7,171 | 25,621 | 78 | | |

^{1/} Only 78 farmers reporting value of farm property in both 1937 and 1931.

